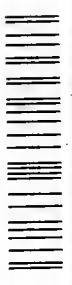


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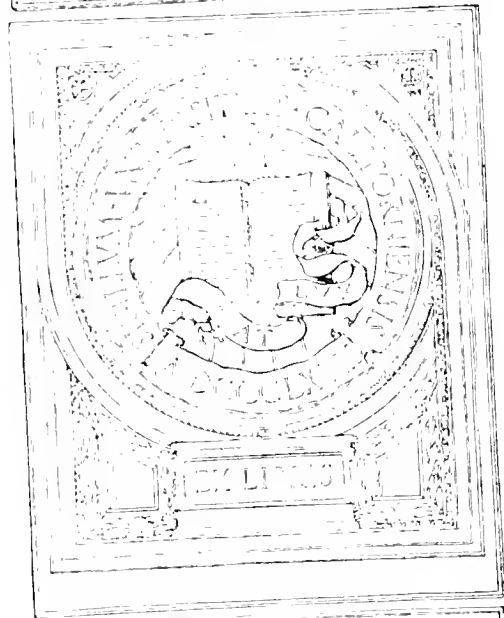


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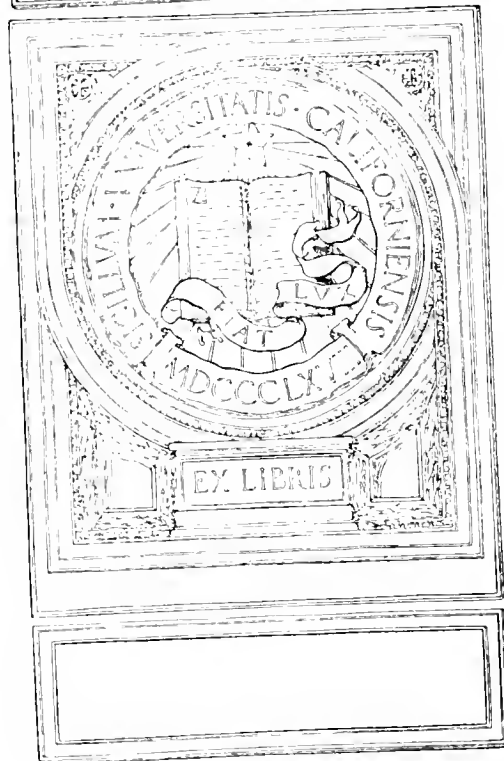


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HARMONIC STRUCTURE
AND
ELEMENTARY COMPOSITION

SEEGER AND STRICKLEN

UNIVERSITY OF CALIFORNIA
AT LOS ANGELES



HARMONIC STRUCTURE AND ELEMENTARY COMPOSITION

AN OUTLINE OF A COURSE IN
PRACTICAL MUSICAL INVENTION

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*Revised by Edward Griffith Stricklen from "An Outline
of a Course in Harmonic Structure and
Simple Musical Invention"*

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and
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INTRODUCTION

It is becoming more and more of an accepted fact that far from being opposed and mutually exclusive, as some still hold, the composition, performance and appreciation of music are, in reality, interdependent and correlative activities constituting the three most important functions of a larger unit—namely, the living art of music. An isolation similar to that experienced by the art as a whole, from any obvious connection with the ebb and flow of social and intellectual life of recent years, may be noted in the relations of the three activities mentioned not only to one another, but to the whole art; and it is the belief of the authors of the present volume that much may be gained through a more precise understanding of any one of them in terms of any other.

In aim and scope this work is fitted primarily to the reconciliation of the creative and appreciative faculties, first, by means of explanation, within reasonable limits, of the logic of harmonic structure—as well to the benefit of the philosophic enquirer as to the alert young mind; second, through an understanding, from actual experience in composition, of the principles underlying the European art; and third, by the instruction of the young composer, who may as well (as any one will grant) be aware of the modern spirit and his relationship to it, whether or not he intends trusting his muse to a guiding intellect, a truant fancy or to somewhat of both. For whether the musician of the older school, who relies upon "pure instinct" or taste for his authority, likes it or not, one can no longer ignore the persistent demand from a younger generation, born and bred in an age of increasing scientific activity, for reasons and explanations instead of the dumb rules and empirical subterfuges which in no great living composer are regarded; further, one cannot remain blind to the forces which set art in motion or to the forces art sets in motion, because, together with the seemingly last gasps of romantic phantasy has appeared a tenuous, at least, scientific explanation for many of the foibles hitherto most jealously guarded by the artistic temperament as strictly private property.

The human intelligence has suited itself with unusual consistency to the ordering of the main elements on musical composition—Rhythm, Tone and Form—in that it can be shown with convincing proof that the underlying laws of taste and nature have agreed, as to their beginnings at least, upon one fundamental scheme for all three.

The musical means for the Forming of Rhythm and Tone into Music rests upon the employment of two distinct and complementary factors—Melody and Harmony. It has been a widely discussed question, which to regard as the more fundamental and which to advocate as the subject better suited for presentation to the student entering upon a musical education. In older days, the art of counterpoint (melody and the combination of melodies) was the only one accepted as the fundamental training, but of recent years (the last few centuries) the instruction has been first in "harmony" (or, more correctly as we shall see, "applied harmony"). It has become apparent to the authors that on the one hand, the art of counterpoint has been and still is practicable only upon the basis of a definite conception of harmonics, while, on the other, harmonic tendencies and combinations only become musical material when connected according to the accepted tradition of melodious part-writing.

The plan has developed, therefore, not to slight one factor while pretending to cultivate style apart from it by means of the other alone (a thing which has never been actually carried out) but to start the student at the initial steps of each at one and the same time, thus cutting out a lot of desiccating routine and eventually—now-a-days—an altogether cataclysmic reconciliation.

Once the teacher and student succeed in divesting themselves of the superstition of any extraordinary difficulty in music reading, writing, grammar and rhetoric and of the conviction of its esoteric intangibility and uselessness, much will be accomplished; for the main obstacles encountered in musical studies are not often due to inherent unmusicalness, but rather to tardiness in undertaking such elementary work and to preposterous ideas of so called "theory," which is not theory at all, but only

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stereotyped practice. This particular misconception has, more than any other, served to cheapen the study of the art. That there may be a science of harmony according to which harmonic laws may be deduced, as well, also, as a logic to the artistic method, the authors believe they have good claim to have outlined; but it does not follow that practical rules may be given for the operation of physical laws or that theoretical tenets may be dragged in to defend contrapuntal style. As to this department of the work, the authors have reason to believe that some points, such as the logic of the minor mode, of secondary triads and seventh chords, etc., as well as the general method of arranging the whole, are original with them; and the student of philosophic or scientific bent is especially invited to examine closely to the strict application of harmonic theory to musical details in the beginning of the course and then follow its slow but persistent passage to more general aspects according as the fitting together of the reliques of ancient tradition and modern thought becomes more and more difficult. That a certain type of mind craves just this stimulus and that other types stand in apparent need of it, has been proven again and again within the authors' experience; for the modern spirit is becoming evident in musical thought in an unusually concrete fashion, and ideas long current in literary and scientific work are being projected into the chaotic waters of modern musical life which may lead upward and onward in true Hegelian fashion, to higher, more complete and more comprehensive forms—not forsaking the old, but reaffirming transcending and embellishing it as each new fragment of dissonant chaos is conquered and found beautiful to the eyes of a more universal consciousness.

Berkeley, California,
July, 1916.

C. L. S., Jr.

PREFACE TO THE SECOND EDITION.

The work represented by the second edition is divided into two parts of fifteen chapters each, and is so designed that a semester of nineteen weeks or thereabout may be devoted to each part, including the necessary introduction, review and examination.

The student's preparation should include such training as will enable him to recognize both by notation and by sound the signature and structure of all scales, intervals and metrical types and a few of the simpler types of chords. Familiarity with a keyboard instrument, while not indispensable, will be much to his advantage. It is quite essential that he should have a clear, correct and neat musical hand-writing and some proficiency in melody-writing.

For the cultivation of the feeling for correct and melodious voice leading, it is recommended that studies in strict counterpoint be carried on concurrently with the work in Harmony. The authors' teaching experience has proved that this will allow ample compensation for that neglect of the melodic element of music, which is unavoidable in the first stages of the study of harmony. Of the many good books on the subject C. W. Pierce, "Modern Academic Counterpoint" (G. Schirmer, New York) has been found most useful.

On account of the excellence and availability of Dr. Pierce's book, no exercises in Counterpoint are included in the present volume. It seems best to devote the first term to the study of Part I and the five species of Counterpoint in two parts and the second term to Part II and Counterpoint in three parts, although the complete study of the combination of species in three parts can hardly be made until later. A plan for further studies in Counterpoint will be indicated in the preface to the succeeding volume on "Chromatic Harmony" (E. G. Stricklen).

The authors believe that the student will gain the most solid culture in music by the steady increase in his power of invention through sustained effort to apply to his own work each detail of knowledge acquired. For this reason, melodies to be harmonized are not assigned. The teacher may feel, however, that the needs of his particular problem demand the supplying of such melodies; but no attempt is made here to offer a general solution for the number of teaching problems of which the authors are well aware.

No course in harmony can possess educational value unless its relation to the living art of music is always apparent. The student should therefore, be as closely as possible in touch with good music throughout his course in composition and should endeavor to observe in it the varied use of the musical material which he is studying. He should regard the steady growth of his own musical vocabulary both in the light of increasing opportunity for self-expression and of increasing power to appreciate the beauty of the best examples of musical composition.

E. G. S.

Berkeley, 1916

PART I

THE DIATONIC CONSONANCES.

Chapter One.

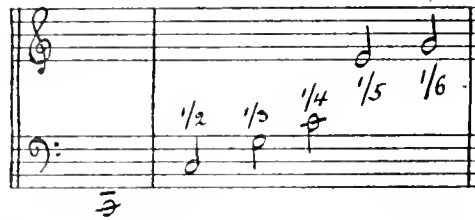
PRIMARY TRIADS.

THE MAJOR SCALE.

a. A science of harmony may be based upon certain physical laws deduced from phenomena observed in the production of tone.

The result of setting in vibration a sounding body (for example, a violin or pianoforte string) seems at first to be only a single tone. But a keener observation will result in the perception of other tones which are present during the sounding of the string. It has been found that certain of these other tones (or overtones) are due to the vibration of fractional parts of the string, which take place at the same time as the vibration of the string as a unit. Each of these fractional parts gives a different tone of its own and the series of partial tones so formed extends indefinitely upwards. The initial degrees of a normal harmonic series are shown in the following illustration (C has been taken as a convenient starting point):

Figure 1



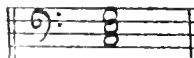
The numerals printed above and below the overtones represent the fractional parts of the sounding body (C) which produces them. The lowest C is called the first partial or fundamental; the octave ($\frac{1}{2}$), which vibrates twice as fast, the second partial; the twelfth ($\frac{1}{3}$), which vibrates three times as fast, the third partial, and so on.

b. The student should carefully note the relations of the constituents of this harmonic series both to the fundamental and to each other, for they are typical of the normal harmonic series upon any given fundamental. An easy method of memorizing these relations is to note that between the fundamental and the first overtone is a perfect octave, between the first and second overtones is a perfect fifth, between the second and third a perfect fourth, and so on.

(If an "open string" of a violin or a violoncello be divided in one or the other of the fractional parts noted in Figure 1, it will be found that the tone produced by this fractional part will bear the same relation to the tone produced by the "open string" as exists between the fundamental and the similar overtone in Figure 1.)

c. We may now observe that Figure 1 is composed entirely of the notes C, E, and G, which, when more simply expressed, as in Figure 2 below, coincides with one of the simplest and most commonly used chords and undoubtedly accounts in a large measure for our choice of it in amplifying the key of C by fuller harmony

Fig. 2

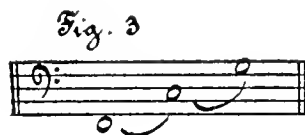


- d. Our studies in harmony may be divided under the two following heads: (1) the origin and the derivation of chords, and (2) their relations to each other.

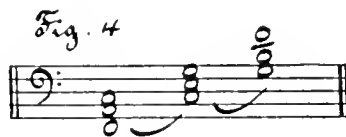
It has been found from experience that the relation between chords depends very largely upon the relation between the tones which generate them. In this respect, we may call the tone C the generator of the C major chord, or triad.

By examining the relation between the fundamental and the second partial in Figure 1, we may conclude that the simplest relation between any two tones is that of a perfect octave, for, when the fundamental, taken as a unity, is compared to the overtones (which may be expressed as fractions) our musical sense tells us that the second and fourth partials are to a large degree only reflections or reduplications in miniature of the original fundamental, whereas already in the third partial a decided feeling of difference is immediately established. The relation between the fundamental and the next partial above the fourth will be seen to be more complex than that between the fundamental and the third partial. We say, therefore, that the relation 1:3 is the simplest relation possible between two different tones, and, applying the above remark regarding octaves, treat, for the present, the perfect twelfth as a perfect fifth by transposition.

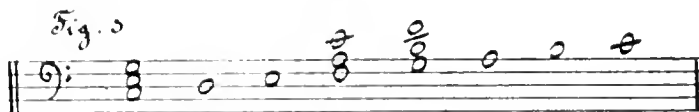
The following figure gives the note C and the notes F and G which will be seen to be in fifth relation to it.



- e. Since every tone produces a major triad from its overtones, we may proceed to erect one on each of the notes of Figure 3, as illustrated below.



If the notes in the above figures are arranged in an ascending line from the note C we will obtain the scale of C major as in the following illustration.



In the above illustration, the chords of Figure 4 are placed above their generators as found in the scale.

- f. Names of the degrees of the scale: 1, Tonic; 2, Supertonic; 3, Mediant; 4, Subdominant; 5, Dominant; 6, Submediant; 7, Leading tone.

As a chord is always named after the tone from which it is built, Figure 5 presents the triads of the Tonic, Subdominant, and Dominant.

EXERCISE.

Write and play major scales beginning on the following different tones, above middle C, erecting first a harmonic series upon each: G, D, A, E, B, F sharp.

Below middle C: F, B flat, E flat, A flat, D flat, G flat. Erect the Tonic, Dominant, and Subdominant triads in each key—thirteen in all.

FAR TRAINING.

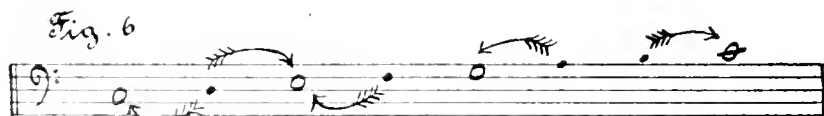
Learn to distinguish the primary triads when heard.

Chapter Two.

CHORD CONNECTION.

- a. From Figure 4 of the preceding chapter we perceive the Tonic triad to be graphed as the center of a key system. The musical faculty leads us to accept this chord, as a point of repose, as the normal harmony for beginning or ending an ordinary composition. The student will find himself already familiar with the three triads of Figure 4 as being the chords most generally used in establishing the key of C major.
- b. As the Tonic triad is the point of repose of a key, its tones will in melodic treatment tend to pass to other tones of the scale and these other tones to pass back to the tones of the Tonic triad. This movement is unrestricted when the progression is made *away* from the Tonic triad, but, when made *back* to it, the most obvious tendency of any tone not a member of the Tonic triad is to proceed to the nearest tone of this chord as a point of repose.

On account of these tendencies, the second fourth, sixth, and seventh scale-degrees are called "ACTIVE TONES." Below, in Figure 6, the members of the Tonic triad (sometimes called "INACTIVE TONES") are given in "white" notes, and the Active Tones in "black" notes, the curved arrows indicating the "tendencies" of the active tones.



- c. A consideration of the ideas brought forward in the preceding section gives us the first rules for the practice of chord connection.

The simplest way of applying them will be to remember that, for the present, we should (1) begin and end each exercise on the Tonic chord, (2) we should lead the active tones according to their recognized tendencies. At present, the Tonic triads may contain any one of their three notes in the lowest part; the form of the other chords will depend upon their context.

It will produce a better musical "texture" if the inner part is kept within the distance of an octave from the two outer ones, and if common tones are tied over in the same part. Figure 7 below is an exercise constructed in accordance with these principles.



Students should carefully analyze this exercise, giving particular attention to the spacing of each chord, the tying of each common tone, and the conduct of each active tone.

For the present, the best method for working out exercises may be said to be the following:

(1) Select the key and write its Tonic triad in one of the several arrangements that will occur to the mind;

(2) Proceed to either the Dominant or Subdominant triad, first tying the common tone and then leading the other parts as smoothly as possible;

(3) Return to the Tonic triad, first tying the common tone and then following the tendency of the active tones.

d. It is generally found convenient to name chords by the number of the scale-degree on which they are built. Referring to Chapter One, Figure 5, we see that we may allude to the Tonic chord as the I, to the Subdominant chord as the IV, and so on.

e. The student may invent his own exercises in chord connection from the knowledge already gained. It will be better for him to avoid, at present, the progressions IV-V and V-IV.

INVENTION.

After the above directions, invent exercises in chord connection, of various lengths, in various major keys, using different varieties of simple measure.

Figure 7 may be taken as a model.

f. The rules for the treatment of active tones may be stated as follows:

(1) As the second degree lies between the first and third, it may be led to either, but at present had better be led to the third only.

(2) Lead the fourth degree to the third.

(3) Lead the sixth degree to the fifth.

(4) Lead the seventh degree to the eighth.

Chapter Three.

FOUR PART HARMONY.

a. When a triad occurs in the form given in Figures 4 or 5 of Chapter One, it is said to be in "ROOT POSITION." The lowest member is called the Root, the middle tone is called the Third, the highest is called the Fifth. These names are retained, no matter in what location the tone so named may occur.

b. From consideration of Figure 1, Chapter One, it will be seen that the most important member of a major triad is its root. Consequently, if we desire to write a major triad in four parts, particularly in root position, the root will always be the best member to double. Figure 8 below gives various examples of the C major triad in root position "doubled" after this principle. Observe that the duplication can take place in any one of the upper parts.

Fig. 8



- c. In four part harmony, the lowest part is called the Bass, the part above it the Tenor, the next higher part the Alto, and the highest part the Soprano.
- d. The spacing of the three upper parts should be the same as that employed for the three-part work in the preceding chapter. A wider spacing between Tenor and Bass may be employed when it seems necessary.

EXERCISE.

Build up, in four parts, five different arrangements of each of the three known chords, in six different keys, using root position only.

As this is not an exercise in chord connection, each chord should be written as a detached example of correct doubling, as in Figure 8.

- e. On account of their great value in determining a key, these three chords are known as the "PRINCIPAL or PRIMARY TRIADS." The relation that they bear to the key-note, shown in Figure 4, Chapter One, further explains this name.

We may still call the chords of Figure 8 "triads," because the fourth part is merely a duplication on another level of a note already present.

NOTE—Avoid confusion between the third degree of a scale and the third of a chord. Reflection will show that these notes are the same in one case and different in others.

Chapter Four.

CHORD CONNECTION IN FOUR PARTS.

- a. The invention given in Chapter Two may be now worked out in four parts in the following manner :
- (1) Place the root of each triad in the Bass before writing the other members of the chord.
 - (2) Follow the given directions for the treatment of active tones and spacing.
 - (3) Avoid, at present, the tying of a common tone in the Bass.
 - (4) Write the Alto and Soprano on the treble staff, and the Tenor and Bass on the bass staff.

Figure 9 below gives an example of such work.



- b. We may now include in our work the four part progression IV-V. There is no common tone present, but a satisfactory treatment of the active tones will give a good result. This may be illustrated in the following figure.



Note that the root of the Subdominant triad, in the Bass, is not treated as an active tone. This is due to its greater importance as the root of the Subdominant chord. Note that the doubled root of the Subdominant in the Soprano receives only approximately the usual active tone treatment, as the tone to which it generally moves is not present in the following chord. The rules for this chord progression may be summarized as follows:

Lead the root of the Subdominant to the root of the Dominant; lead the doubled root of the Subdominant to the fifth of the Dominant; lead the third of the Subdominant to the doubled root of the Dominant; lead the fifth of the Subdominant to the third of the Dominant.

- c. Avoid for the present the progression V-IV. It has generally an unpleasant effect, in which the student of Counterpoint will recognize the forbidden "Tritone."

EXERCISE.

Write each of the following chord sequences in several different major keys according to the given directions. Various forms of measure should be used.

- (1) I-IV-V-I.
- (2) I-V-I-IV-I-IV-V-I.
- (3) I-I-IV-IV-V-V-I.

The third exercise here follows in the key of C major. Note that when a chord is repeated its tones may be freely rearranged, whether they are active tones or not.



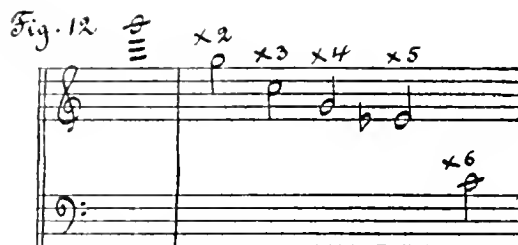
INVENTION.

Invent six chord sequences, similar to those in (2) and (3) above, in various major keys and meters as before. Always begin and end with the Tonic triad, and have each chord in root position.

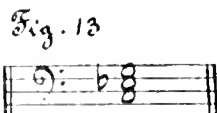
Chapter Five.

THE MINOR SCALE AND PRIMARY TRIADS IN THE MINOR MODE.

(The student should compare each section of the present chapter with the similarly lettered sections of Chapter One.)

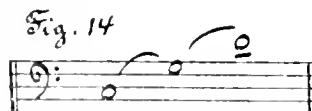


- a. If the first note G of Figure 12 be taken as a new point of departure, and the length of a string capable of producing it is doubled, the note resulting from this doubling will be a perfect octave below it, as shown in the figure. Similarly, multiplying the original string-length by three, by four, by five, and by six, tones will be obtained of the same pitch as those shown in the figure. On account of their location in pitch, the tones thus formed below the original note G are called Undertones.
- b. By a comparison of Figure 12 with Figure 1, the student will observe that the series of undertones presents the same series of interval-relations to their generator and to each other as exists between the fundamental and the overtones of Figure 1, the only difference being that while overtones are projected upward, undertones are projected downward.
- c. We may now observe that Figure 12 is composed entirely of the notes G, E flat, and C. This fact may account for the existence of the minor triad, which may be more simply expressed as in Figure 13 below.

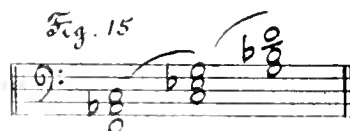


- d. By substituting the word "undertone" for "overtone" in section d of Chapter One, we will find that the assertion concerning the relationship of the perfect fifth holds true here also.

Applying this fact, we obtain the following figure which consists of the note G and the notes C and D which are in fifth relation to it below and above, respectively.



- e. Since from any tone a triad composed of undertones may be projected, we may now build such triads on each of the notes of Figure 14 with the following result:



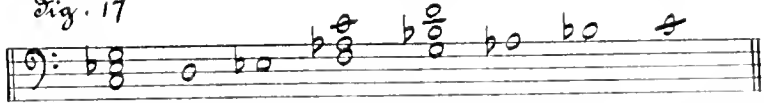
f. Observe that, in Chapter One, the overtones, triads, and the resulting scale are all produced upwards. Now, in the illustrations of the present chapter we may note that the undertones and the chords may be built downwards. Following out this thought, we may take the chords of Figure 15, and, beginning with the note G, arrange their members in a descending series with the following result:

Fig. 16



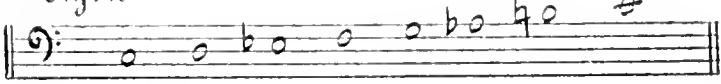
This is the true or theoretical, minor scale and we call the chord G E flat and C the Tonic triad of the minor mode.
g. But our modern practice conceives of chords as projected upward from the bass. In this illustration, C, both by analogy to its position in the major triad and as a result of contrapuntal practice, is taken as the root of the chord, while the scale is thence described upwards from it.*
The notes and chords of Figure 16 rearrange themselves therefore in the following order:

Fig. 17



Observe that the chords on the fourth and fifth degrees of this scale occupy the reverse position with respect to the original Tonic chord than that occupied in Figure 16. This fact is of the utmost importance in later studies of the harmonies of the minor key.
h. On account of the frequent necessity for the intensifying effect of the Leading Tone as found in the major mode, the seventh degree of the scale of Figure 17 is frequently raised as in the following figure:

Fig. 18



This results in presenting two available forms for the triad on the fifth degree of Figure 17, i. e., as minor or as major. Both of these forms will be found in use.
i. The scale given in Figure 18 with the raised Leading Tone is the familiar "Harmonic Minor Scale." Its degrees and its chords are named as in Chapter One, section f. When the raised Leading Tone is not used, it is called the "natural seventh."

EXERCISE.
Apply the material of the minor key to the exercises of Chapter One, including both forms of the Dominant chord.
EAR TRAINING.
Learn to recognize the difference between the major and minor scales and chords.

*European musical tradition has, since mediæval times, consistently, both in theory and in practice, measured intervals from the bass upwards; this, together with the fact that harmonic series in superior resonance seem to be commoner phenomena in our experience than harmonic series in inferior resonance, has displaced the logical center of the mode for so long, that the accepted styles of the present day regard the mode's dominant (C) as the tonic; and, under influence of the major mode (which recommends itself to us as the more normal idiom), many of its characteristics have remained unrecognized while others have been distorted, the resulting anomaly, like the other modes of the mediæval church, seem only tolerably fitted for harmonic treatment in view of the strong feeling for KEY developed in recent years.

Chapter Six.

CHORD CONNECTION AND FOUR PART HARMONY IN THE MINOR MODE.

- a.* For similar reasons, the rules for active tones and chord connection, given in Chapter Two, apply to the connection of the chords of the minor mode.
- b.* We apply the names of Root, Third and Fifth to the minor chords as we did in the major triad.
- c.* For these reasons, we double the Root of a minor triad when writing it in four parts in Root position, treating it in this case exactly as we would in the major.

Sections *c* and *d* of Chapter Three apply to the minor mode as well, as does also section *e* of the same chapter, for the same reason there given.

EXERCISE.

Work out the exercise of Chapter Three in six different keys, in the minor mode.

- d.* The entire material of Chapter Four may now be applied to the chords of the minor mode, in various keys.

To this we may add that the progression V-IV in the minor mode may be freely allowed when V is taken as a minor triad, there being as a rule no bad Tritone effect. When V is a major triad the progression is as bad as the similar triad in major, and for the same reasons.

- e.* The Dominant as a major triad should not be neglected, however, and if the exercise closes with the progression V-I, V should be a major triad if the effect of the raised Leading Tone sounds better.

EXERCISE.

Work out the exercise of Chapter Four in various keys, using the minor mode. The treatment is the same.

INVENTION.

Work out the invention of Chapter Four in various keys, using the minor mode and following the given directions.

Chapter Seven.

THE FIRST PRINCIPLES OF MELODIC INVENTION.

(This chapter should be omitted by students who have not been studying Strict Counterpoint concurrently with this course in Harmony.)

- a.* Melodies cannot be made by rule, but all melodies follow, in a general sense, some rational course of construction.
- b.* With practice, a constantly increasing series of melodic opportunities will be discovered by the student. He will find his best guides to these opportunities to be (1) a careful observation of the tendencies of all active tones, (2) a consideration of the harmonic implication of each note that he writes, and (3) a careful choice of the duration of the tones he employs with respect to each other. The following comments may be added on these general principles:

(1) An active tone should always be led according to its tendency, except where a skip from one tone to another seems to imply that both tones belong to the same chord. A freer treatment of this principle will be discussed in the following chapter.

(2) A melody should be so conducted that, if harmonized, no forbidden harmonic progression may occur. All melodies should begin and end with one of the members of the Tonic triad.

(3) For the present, the melodies should be written in half-notes and quarter-notes. A whole-note may be used as the last note of a melody, when the exercise is written in 4/4 meter. In 3/2 or 6/4 meter whole-notes may be more freely used. Dotted half-notes or even dotted whole-notes may be used when possible, to secure rhythmic variety. For the present, it will be better to introduce the longer notes of a melody on the more strongly accented beats of the measure.

c. Skips should be used as in Counterpoint and should follow the same rules.

d. The student will find that if he tries to imagine his melodies as being performed in some definite "tempo" he will find it easier to obtain melodic ideas.

INVENTION.

Compose several four-measure "phrases" in various meters, in various keys and in both major and minor modes, making them as unlike each other as possible.

These melodies should not all begin on the same part of the measure, but in every case, the sum of the measures in each melody, whether fractional measures are employed or not, should be exactly four.

Chapter Eight.

HARMONIZATION OF MELODIES.

a. While it is not always the case, every tone of a melody, particularly a simple one, may be accompanied or harmonized by a chord of which it is a member.

The following rules of procedure are to be observed:

(1) Write out the melody, placing it in convenient range for a Soprano part.

(2) Over each note, write the Roman numeral corresponding to the chord with which the note is to be harmonized. Avoid the implication of clumsy chord succession. Be sure that the first and last chords of each exercise are chords of the Tonic.

(3) Write the Bass next, using in it the roots of the chords selected, *i. e.*, provide for each chord being in Root position.

(4) Carefully fill in the middle parts of the first chord, providing as far as possible for correct spacing of the succeeding chords. If, for instance, the melody steadily rises, the Alto of the first Tonic chord is best written as closely as possible to the First note of the Soprano. This will be of assistance in keeping the Alto and Soprano within an agreeable distance of each other.

(5) Fill in the remainder of the middle parts. As a rule, it is best to tie the common tone first when filling in each chord. Attention to the treatment of the active tones will generally result in correct doubling and spacing, although certain exceptions often arise. These will be discussed in the next section.

b. The following rules will naturally arise:

(1) Harmonize the first, third, and fifth degrees of the scale with the Tonic chord

(2) Harmonize the fourth and sixth degrees of the scale with the Subdominant chord.

(3) Harmonize the second and seventh degrees of the scale with the Dominant chord.

(4) The first degree of the scale may be harmonized with the Subdominant, except at the first or last notes of the exercise, and the fifth degree of the scale may be harmonized with the Dominant, but neither of these harmonizations may be used if it gives rise to the forbidden progression of Dominant to Subdominant.

(5) An active tone may be led in a direction contrary to its tendency either conjunctly or by a skip of a third if approached conjunctly in this contrary direction.

(6) When necessary, a principal Triad in Root position may occur with its fifth omitted and Root tripled.

These rules apply to major and minor modes alike.

Chord repetition suspends the rules for the treatment of active tones *during the repetition*.

c. The following is an example of a harmonized melody:



EXERCISE.

Harmonize four "phrases" in major and four in minor. These should be taken from the work of the preceding chapter if possible.

Chapter Nine.

CHORD INVERSION—THE CHORD OF THE SIXTH.

- a. When the third of a triad is in the Bass, the fifth and root of the triad will occur above it at the distances of a third and a sixth respectively. The fact that these intervals often occur plus one or more octaves makes no difference in the general effect of the chord.
- b. Such an arrangement of the chord is called its "first inversion." The intervals of a third and sixth above the Bass cause the chord to be also known by those intervals as its name. It is generally called, however, simply "the chord of the sixth." The following is an illustration:



- c. In the above illustration, observe that the root is sometimes doubled and sometimes the fifth. This is done because these tones are the most important ones in the chord, as may be seen in the frequency of their occurrence in the tables of overtones and undertones. At present, the Bass of a principal chord of the sixth should never be doubled.

EXERCISE.

Build up, in four parts, five different arrangements of the first inversion of each of the primary triads, in six different keys. Space the chords as before. Write an Arabic six (6) under the Bass of each chord and retain the custom throughout the course.

EAR TRAINING.

Be able to distinguish Chords of the Sixth from root position chords.

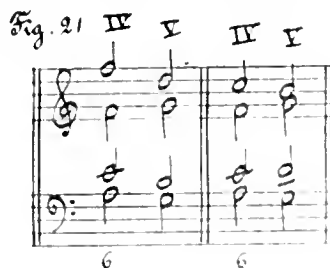
- d. On account of the more fluid nature of the Chord of the Sixth, a skip of over a third from its Bass should be avoided, particularly at present, since its Bass is neither a chord root or a principal tone of the key. This rule may be suspended in chord repetition, but, as a rule, it is better to have a chord inversion follow its root position rather than precede it. A skip to a chord of the Sixth is always good when the Bass of the Chord of the Sixth can be led in a direction contrary to that of the skip.

INVENTION.

Invent four measure chord sequences in various major and minor keys and various meters making use of Chords of the Sixth to secure as smooth a Bass as possible. Figure every Six-Three. Begin and end with the Tonic chord in *root position*.

- e. In the manipulation of the Subdominant Chord of the Sixth, if the root of the chord is doubled, one of the tones should be treated strictly, as an active tone, and the other may be treated freely, as a chord root: *i. e.*, allowed to move freely; if the fifth of the chord is doubled, the two tones should not be treated alike. The choice of these doublings and treatments should be governed by the doubling and spacing of the following chord as well as by the following rule.
- f. If any two parts hold the interval of a fifth, they should not move into another fifth. A repeated fifth, being merely a prolongation of the same two tones, is not subject to this rule.
- The same rule applies with octaves.

- g. Some progressions of the Subdominant Chord of the Sixth are illustrated below. It will be seen that the rules given in Chapter Four are still applied in a general way.



EXERCISE.

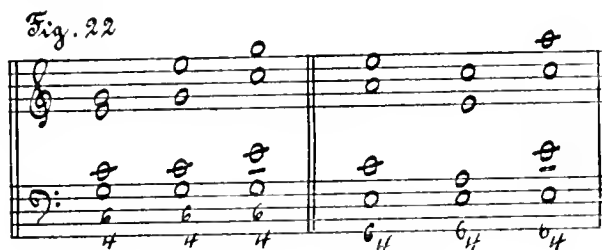
Re-harmonize two of the inventions used in the last chapter in major keys, and two in minor keys, applying Chords of the Sixth to secure as much smoothness as possible in the leading of the Bass. Compose two new phrases in major keys and two in minor keys, and harmonize them in a similar manner, applying the directions given in the preceding chapter.

On account of the smallness of the harmonic vocabulary at our present disposal, it will be frequently necessary to write very sustained Alto and Tenor parts. This deficiency will be readily avoided after more chords are understood.

Chapter Ten.

CHORD INVERSION—CHORD OF THE SIX-FOUR.

- a. When the fifth of a triad is in the Bass, the third and root of the triad will occur above it at the distances of a sixth and fourth respectively. (See *a* of preceding chapter.)
- b. Such an arrangement of the chord is called its "second inversion." The intervals of a sixth and fourth above the Bass cause the chord to be also known by those intervals as its name, and as is generally called the "Chord of the Sixth and Fourth," or, more familiarly, the "Six-four Chord." The following is an illustration:



- c. Observe that the fifth, which is in the Bass, is always doubled. This is an invariable rule in elementary composition.

Compare this section with Section *c* of the preceding chapter.

EXERCISE.

Build up, in four parts, five different arrangements of the second inversion of each of the primary triads, in six different keys. Space the chords as before. Write an Arabic six under the Bass of each chord, under that an Arabic four, and retain this custom throughout the course.

EAR TRAINING.

Be able to distinguish Chords of the Sixth and Fourth from Chords of the Sixth and from root position chords.

- d. On account of the nature of the Six-four Chord, which will be understood by further experience, the following rules for its use will be found necessary:

- (1) The Bass of a Six-four Chord may be preceded or followed by the same scale degree. This includes a skip of an octave in the Bass part.

- (2) The Bass of a Six-four Chord may be preceded or followed by a tone one degree above or below it.

- (3) The Bass of a Six-four Chord, if it does not skip an octave as in (1), may skip only to the root or third of the same chord, although it is better to have a root position *precede* an inversion of the same chord rather than follow it.

INVENTION.

Invent various chord sequences of four measures, each in different keys and meters, making

use of Six-four Chords to secure as smooth a Bass as possible. Figure each inversion according to rule. Begin and end as before.

e. What was said in Section *e* of the preceding chapter applies generally here.

Section *f* of the preceding chapter applies here and continues to do so until further notice.

f. The use of Six-four Chords permits the occasional tying of Bass notes. Unless the rule for the correct treatment of Six-four Chords should be thereby broken, it is better to avoid the tying of an unaccented tone in the Bass to an accented tone.

This rule applies to all the voices, but the student should not carry it out too strictly until it can be observed with but little trouble.

g. The following is an example of harmonization by means of the use of root position chords and both forms of inversion. Observe the further gain in smoothness in the treatment of the Bass.



EXERCISE.

Re-harmonize two of the inventions used in the last chapter in major keys, and two in minor keys, applying both forms of inversion to secure as much smoothness as possible in the leading of the Bass. Compose two new phrases in major keys, and two in minor keys, and harmonize them in a similar manner, applying the directions given in Chapter Eight.

Chapter Eleven.

THE MUSICAL SENTENCE OR "PERIOD."

THE SIMPLER CADENCES AND THEIR USE.

a. The simplest type of Period is composed of two phrases. For the sake of completeness, each Period should end with the Tonic chord in root position, but this cannot be done at the end of the first phrase, as the ending would thereby be anticipated.

b. The harmonization of the ends of the phrases is of the greatest importance. To completely end the Period, we must close with the Tonic chord in root position; to avoid ending too soon we must end the first phrase with either the IV or V, the latter being generally to be preferred. It is occasionally necessary to end the first Phrase with the Tonic chord, but in this case it should occur in first inversion only.

c. Each phrase should end with two different chords. These sets of two chords are called "Cadences."

When a Cadence is made of the I and V it is called an Authentic Cadence; when it is made of the I and the IV it is called a Plagal Cadence; when both the IV and the V are concerned, it is called a Mixed Cadence.

When the I is the last chord in the Cadence, the Cadence is said to be a "Full Cadence;" when the I precedes the IV or the V, we obtain a "Half Cadence."

When both chords are in root position we obtain a Perfect Cadence; when either or both of the chords is inverted, we obtain an "Imperfect Cadence."

d. At least one of the chords of a Cadence should occur on an accented beat; when greater strength is desired, the melody may be so arranged that both chords may occupy accented beats.

e. Each Period should end with a full cadence, either "Authentic" or "Plagal," "Perfect" or "Imperfect," although the perfect form is to be preferred here.

The first phrase should end with a "Half Cadence" or rarely, with an "Imperfect Full Cadence." A very useful form is I_6-V , with the I on the accented beat.

f. A six-four chord should never be used as a second chord in a Cadence.

g. We may extend the final Cadence by using the "Mixed" form $IV-V-I$, or $IV-I-V-I$.

h. The study of the more complicated Cadences and their uses will be left for a later stage.

i. The following is an example of the construction of a Period and the treatment of the Cadences. It will be observed that the beginning of the two Phrases are alike. This is one of the simplest ways of obtaining unity in the Period Form. The student should often make use of this device.

Fig. 23 *a*

The figure shows a musical period in 3/2 time. The first phrase consists of four measures: I (C major), V (F major), I (C major), and IV (F major). The second phrase also consists of four measures: I (C major), V (F major), I (C major), and V (F major). The period ends with a full cadence (I-V-I). The notation includes treble and bass staves with notes and rests, and Roman numerals above the notes indicating the chords.

INVENTION.

Take four Phrases in major keys, and four in minor keys, from the inventions of Chapter Seven. Expand them into Periods, harmonizing them with due regard to the necessary Cadences.

Chapter Twelve.

THE SECONDARY TRIADS IN THE MAJOR MODE.

a. The three chords that we know in the major mode are shown in Figure 24.

Fig. 24

The figure shows three triads in the major mode: I (C major), IV (F major), and V (C major). The notation includes a treble staff with notes and rests, and Roman numerals above the notes indicating the chords.

We find, however, that it is possible to erect and use a Triad on every degree of the scale, as shown in Figure 25.

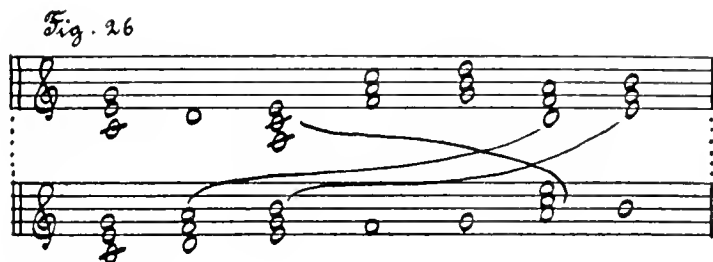
Fig. 25

The figure shows seven triads in the major mode: I (C major), II (D minor), III (E minor), IV (F major), V (C major), VI (D minor), and VII (E minor). The notation includes a treble staff with notes and rests, and Roman numerals above the notes indicating the chords.

- b. As none of these new chords are made from the overtones of their roots, we must find a way of accounting for them, different from that employed for the I, IV, and V.

We find that the II, III, and VI are minor triads, and as we know that minor triads may be formed by the inferior resonance of their fifths, we will investigate the origin of these chords, leaving the VII, which is a diminished chord, to be studied later in Chapter Nineteen.

- c. We find that we may account for the II, III, and VI as undertone chords of the sixth, seventh and third degrees of the scale, as shown in Figure 26.



- d. The relation of these new chords to the key center is shown by means of Figure 27.



It will be seen that they are related to the key center, not directly, as are the primary Triads, but indirectly, by being undertone chords of the thirds of the principal Triads.

The impression they make upon the ear agrees with this observation as they do not determine the key as clearly as do the primary Triads. For this reason they are called "Secondary Triads."

- e. Each secondary Triad will be found to have two notes in common with the principal Triad on the Third of which it depends. This fact causes us to call such a chord the "Secondary" of the Triad on which it depends, and also to call the primary chord the "Primary" of its dependent Triad.
- f. From the fact that each primary and its secondary contain common tones which are noticed as being characteristic of each primary, such as the possession of the leading tone by both the III and the V, we conclude that each secondary belongs to the same "family" as its primary.
- g. The idea of "chord families" is most important and useful in our study of harmony. By accounting for any chord as a member of either the Tonic, Dominant, or Subdominant families, we are able to greatly simplify our work as well as the better to classify our vocabulary of chords.
- h. A secondary Triad should follow, and not precede, its own primary, but may be preceded by any other primary triad.

A secondary Triad may proceed to another secondary Triad, except in the cases of the progressions II-III and III-II, which suggest the relative minor key too strongly to be of much use at present.

i. A secondary Triad in root position may double its root like a principal Triad. But as its third is a principal tone of the scale, that member may be doubled, as well. Good voice leading should govern the choice.

In its first inversion, it may double its root as before, or its fifth like a principal Triad, or its third for the reason just given.

The second inversion of secondary Triads should be doubled exactly the same as the second inversion of principal Triads.

j. The Bass of the root position and the two inversions should be figured and treated the same as the Bass of root position and similar inversions of the principal Triads.

k. Active tones should be treated as before.

When an active tone is taken as a root it may progress freely.

INVENTION.

Invent four chord sequences eight measures in length in various meters and various major keys, making frequent use of secondary Triads in their root positions and their inversions. Begin with the Tonic chord in root position, and close with a "Perfect Full Cadence."

l. Secondary Triads have not enough harmonic strength to be of much value in Cadences at present.

Chapter Thirteen.

HARMONIZATION OF MELODIES, USING SECONDARY TRIADS—MAJOR MODE.

a. The methods indicated in Chapter Eight may be extended to include the secondary Triads of the major mode as additional resources.

b. The use of secondary Triads imparts variety and gives new opportunities for wider choices in voice leading.

All the parts should be led as melodiously as possible. While occasional skips are good, if followed by conjunct motion in a direction contrary to the skip, frequent skips should be avoided, as they generally produce a disjointed effect.

c. The Bass of the first inversion of a secondary Triad is allowed to skip over a third on account of its importance as a principal tone of the key.

d. The second inversion of a secondary Triad should not be used on a strongly accented beat unless all the voices move very smoothly, as otherwise such an inversion frequently indicates a modulation,—a resource which is at present beyond our reach.

e. An exception in the treatment of six-four chords is allowed in the case of the Tonic Six-four by preceding this chord by the II in root position. The use of this exception furnishes us with a valuable "Semi-cadence" in the form II-I₄-V. We may extend this to a "Full Cadence" by following the V by the I.

EXERCISE.

Re-harmonize several Periods in the major mode written in the work of Chapter Eleven, making frequent use of the secondary Triads and their inversions.

New melodies in the major mode should be also written with the effect of the secondary chords in mind and harmonized with the use of these chords.

The beginnings and Cadences in all this work should be treated as before.

EAR TRAINING.

Be able to distinguish the secondary Triads from the primary Triads by their sound alone, when listening to such work as has just been done.

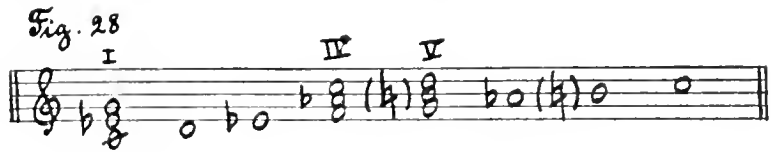
This work should be extended to include the ability to distinguish the different inversions of the secondary Triads from the different inversions of the primary Triads, both by chord name and chord inversion.

Chapter Fourteen.

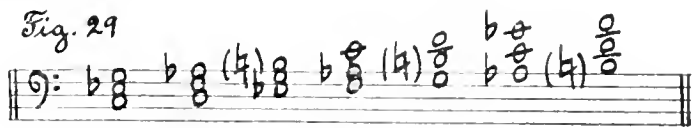
THE SECONDARY TRIADS IN THE MINOR MODE.

THEIR EVOLUTION, TREATMENT, AND APPLICATION.

a. The three primary triads of the minor mode are shown in Figure 28.



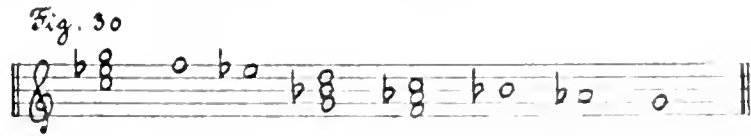
We find, however, that it is possible to erect and use a triad on every degree of the scale as shown in Figure 29.



We have already found that the seventh degree of the minor scale may lie either a whole step from the Tonic or a half step from it, *i. e.*, in the given figure we may use either the natural of the raised seventh. The former will be employed as more useful at present in the VII of the minor mode; we have found either form of the seventh degree possible in the V; as the fifth of the III is the seventh degree of the scale, the use of one form of the seventh degree will give us a major triad for the III, and the use of the other form of the seventh degree will change this into an augmented chord. Both forms may be used

b. Upon examination we will find that the three principal triads of the minor mode not only establish the scale of the mode, but are the only undertone chords which are possible in diatonic harmony, that is, harmony made from the notes of the scale only. We find major triads, or overtone chords, existing on the third, sixth, and seventh degrees of the theoretical (descending) minor scale, analogous to the formation by undertones of the secondary triads in the major mode, upon the third, sixth, and seventh degrees respectively. The diminished chords will be studied later, in Chapter Nineteen.

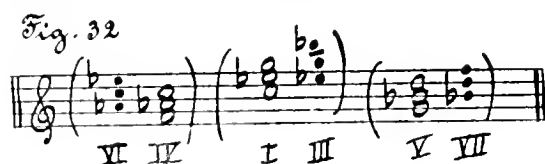
c. In the following figure, we find the theoretical minor scale, with its three principal triads written as undertone chords of the first, fourth, and fifth degrees.



In the modern arrangement of the minor scale, the true relationships are maintained, but the VII and VI become the VI and VII, respectively, just as was the case of the IV and V. Secondary triads are found on the third, sixth, and seventh degrees of the scale. This is illustrated in the upper staff of Figure 31, which is to be compared with Figure 26 of Chapter Twelve. The lower staff of Figure 31 places these chords as they are found in the modern minor scale.



d. The relation of these chords to the key center is shown in Figure 32.



It will be seen that they are related to the key center, not directly, as are the primary triads, but indirectly, by being overtone chords of the thirds of the principal triads. (Compare with Section *d* of Chapter Twelve.)

- e.* By the same methods used in Sections *e*, *f*, and *g* of Chapter Twelve, we can classify these triads according to the idea of "chord families."
- f.* We may now compare the classification of the chords that we know in the major and minor modes according to their "families."

In the major mode, the Tonic family is composed of the I and the VI, the Dominant family is composed of the V and the III, the Subdominant family of the IV and the II.

In the minor mode, the Tonic family is composed of the I and the III, the Dominant family of the V and the VII, the Subdominant family of the IV and VI.

- g.* Until further notice, the VII of the minor key is to be invariably used as a major triad.
- h.* When the III is used as an augmented triad, the presence of the leading tone gives it certain Dominant characteristics. In this form, the active tone tendency of the leading tone should be carefully observed.

When the III is used as a major chord, its fifth demands no more than a smooth melodious treatment.

- i.* Sections *h*, *i*, *j*, and *k* of Chapter Twelve apply here also, with the following exceptions:

The progressions II-III and III-II are impossible at present as we have not yet treated of the II; the progressions VI-VII and VII-VI should be avoided as they suggest the relative major key too strongly to be of much use at present. (Compare the similar progression III-II and II-III in major.)

The thirds of the VI and VII may be doubled as in Section *i*, of Chapter Twelve, but as they are major thirds from their roots, this doubling will sound faulty unless brought in by smooth progression to the notes so doubled.

When the III is taken as an augmented triad it may be led to the I without bad effect, on account of the tendency of the leading tone to progress to the Tonic.

When the III is taken as a major triad, it should be treated in manner similar to the VI and VII; when taken as an augmented triad, its fifth should never be doubled, as the leading tone in the minor mode becomes over-prominent whenever it is doubled. Consequently, in root position and first inversion, this augmented chord should double either its root or third; in its second inversion, which is rare, it should generally double its third.

Although neither root nor third of the VII are principal tones of the scale, the chord itself is of such comparatively rare occurrence that any inconsistency in regard to its method of doubling may be safely passed over.

INVENTION.

Invent four chord sequences, eight measures in length, in various meters and various minor keys, making frequent use of the secondary triads in their root positions and their inversions. Begin and end as before.

j. The material of Chapter Thirteen may be applied to the harmonization of melodies using secondary triads in the minor mode with the following exceptions:

The Bass of the first inversion of a secondary triad in the minor mode should not be treated quite so freely as the Bass of a similar chord in the major mode. This is particularly applicable in the case of the Bass of the first inversion of the VII.

Section *d* of Chapter Thirteen should be noted and carefully applied here also.

As we have not yet studied the II, Section *e* of Chapter Thirteen cannot be applied as yet.

EXERCISE.

Work out the exercise in Chapter Thirteen, making use of periods in the minor mode as before, as well as in new keys.

EAR TRAINING.

Work out the ear training of Chapter Thirteen, applying it to the various triads of the minor mode.

Chapter Fifteen.

THE APPLICATION OF THE CONTRAPUNTAL DEVICES OF "AUXILIARY NOTES," "PASSING NOTES," AND "CHANGING NOTES" TO THE MATERIAL OF CHAPTERS THIRTEEN AND FOURTEEN.

(If Strict Counterpoint has not been studied concurrently with this course in harmony, this chapter should be omitted.)

- a*. If the student has been studying Counterpoint along with this course in harmony, he will be familiar with the devices mentioned in the title of this chapter. The following directions will assist him in applying these devices to his studies in harmony.
- b*. The principal uses of these devices should be found at present in the evolution of melody, so their present application should generally occur as a means for obtaining more melody in the Soprano. Their application to the Bass part will be always valuable, as the Bass is thereby rendered more

flowing. The use of such devices in both Soprano and Bass at once presents a problem that should be avoided at present, as its correct solution demands considerable maturity of contrapuntal feeling. An occasional passing or auxiliary note may be used in the inner parts if its effect is good, but here, again, the problem is too difficult to admit of extended treatment at present.

- c. As a rule, none of these devices should be used at the same time that the other voices are sounding a new chord, although rare exceptions to this rule may be permitted if their effect is good.
- d. These devices are best employed in quarter notes or notes of smaller value, but as a rule nothing is gained at present by the use of notes shorter than a sixteenth.

Dotted notes of various values may be employed provided that the note dotted is generally a chord tone.

- e. As these devices most frequently use notes foreign to the chord prevailing at the time of their use, they are classed among the so-called "non-harmonic" devices.
- f. When employing such means to obtain more melody in the Soprano, care should be taken to avoid rhythmic monotony, or an overloading of the Soprano with non-harmonic tones. Advantage should be taken of opportunities for the use of dotted notes. A melodious effect is as frequently gained by the avoidance of a passing note as it is by its use; in fact, a careful cultivation of taste in such matters is the only possible procedure.
- g. On the other hand, the attainment of a freely flowing Bass necessitates the maintenance of a steadily moving series of tones, all of which, except the last, should be of the same value, or as near to some certain value as possible. This will require a copious use of non-harmonious devices.

EXERCISE.

Work over four exercises from Chapters Thirteen and Fourteen, using the given non-harmonic devices for the evolution of further melodic effect in the Soprano parts.

Work over four more exercises from the same sources, obtaining smoothly flowing Basses. Make the Basses in two of the exercises move, as far as possible, in steadily flowing quarter notes, and the Basses of the other two exercises as far as possible in steadily flowing eighth notes.

- h. These latter four exercises present an application in their Bass parts of what may be studied later under the title of Free Counterpoint.

PART II
THE DIATONIC DISSONANCES.

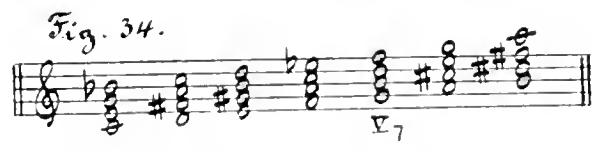
Chapter Sixteen.

THE EVOLUTION AND TREATMENT OF THE PRIMARY SEVENTH IN MAJOR AND MINOR KEYS.

a. With the exception of one diminished triad in the major mode and two in the minor mode, the possible series of diatonic triads, or chords of *three* different notes, is now complete. Leaving the explanation of these diminished triads to Chapter Nineteen, we will investigate the following series of overtones in the effort to find a new chord which necessarily must be one of *four* different notes.



b. We find that we can construct such a chord from a fundamental and its first six overtones. (first to seventh partials) which may be reduced to the form of a major triad plus a minor seventh.
c. The following figure shows the major scale with this chord erected on each of its degrees:

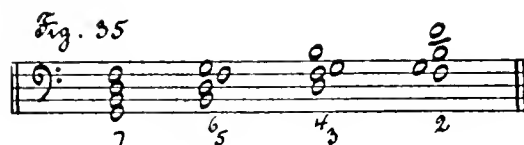


It will be seen that this chord may occur diatonically on the fifth degree only.

d. As this chord occurs only on the Dominant, and contains the interval of a seventh, the chord is called "The Chord of the Dominant Seventh."
e. While it is possible to find an undertone seventh chord in the minor mode, corresponding to the dominant seventh in the major key, modern practice erects and treats the dominant seventh in the minor mode as it does in the major. This is possible when the raised seventh degree is used in the minor scale.
f. The student should be familiar by now with the fact that all dissonance demands resolution, i. e., a special progression according to the nature of the tones forming the dissonant interval as well as to the interval between them. In the root position of the dominant seventh chord given in Figure 33, we observe the dissonance of a minor seventh between the root and seventh and another dissonance of a diminished fifth between the third and seventh. This throws the seventh

of the chord into high relief, intensifying its active tone progression, and accounting for the rule always given that the seventh of the dominant seventh should always resolve one degree downward. On account of the dissonance between the seventh and the third, this third, which is the leading tone of the scale, has its active tone tendency intensified also, and consequently generally resolves upward to the first degree of the scale.

- g.* We may conclude, then, that the dominant seventh should resolve into a chord containing the first and third degrees of the scale. The chords that we know that contain both of these scale degrees are the I and VI, and, in fact, the progressions V_7 -I and V_7 -VI are the ones most generally employed.
- h.* By tying over the leading tone, the dominant seventh may be lead to the III, but this should not be often done. It is best, at present, when the III progresses again into another inversion or arrangement of the dominant seventh.
- i.* The several possible inversions of the dominant seventh together with their "figuring" may be studied below. It will be seen that the figures indicate the distance from the Bass of the root and seventh of the chord, the other intervals being understood.



- j.* The preceding and following remarks on the treatment, inversion, and figuring of the dominant seventh will be seen to apply to the minor as well as to the major mode.
- k.* In the treatment of this, as well as all other dissonant chords, it is generally best to approach the dissonance by oblique or contrary motion.
As the seventh of the dominant seventh is an essential part of the chord, it need not be "prepared," as suspended dissonances are in Strict Counterpoint.
- l.* Any chord that may effectively precede the V may precede the V_7 . Note the exception in Section *h* of this chapter.
- m.* The following directions apply to the usual progressions noted in Section *g*.

In resolving the dominant seventh, the root moves either to the root of the Tonic, to the root of the VI, or is sustained as a common tone, the third of the dominant seventh rises to the Tonic, the fifth of the dominant seventh falls to the root of the Tonic, and the seventh of the dominant seventh resolves to the third of the Tonic. These movements are to be observed, no matter in what form or inversion the dominant seventh occurs.

When the dominant seventh occurs in root position, it is better to omit the fifth and double the root, except when harmonizing the second degree of the scale, when it is better to double the root and omit the third, but this rule applies to the progression V_7 -I only.

- n.* When the third inversion of the dominant seventh is followed by the first inversion of the Tonic, the fifth of the dominant seventh may move to the fifth of the Tonic.
- o.* When the second inversion of the dominant seventh is followed by the first inversion of the Tonic, the seventh of the dominant seventh may rise to the fifth of the Tonic, on account of the note of resolution being taken by the Bass.

- p. Deceptive cadence. The deceptive cadence arises from leading the dominant seventh to the triad on the sixth degree, instead of the Tonic. The only difference between these two chord movements is that the root of the dominant seventh is led to the root of the triad on the sixth degree. The dominant seventh should always occur in its complete form in the deceptive cadence.
- q. In the major mode the progression V_7-VI may be employed.
- r. Examples of the foregoing: (Secs. m, n, o, p, q.)

Fig. 36

Fig. 36 shows two systems of musical notation. The first system consists of two measures. The first measure contains a G7 chord (root position) with a tritone substitution (F#7) indicated by a bracket. The second measure contains an E6 chord (root position) with a tritone substitution (D#6) indicated by a bracket. The second system also consists of two measures. The first measure contains a G7 chord (root position) with a tritone substitution (F#7) indicated by a bracket. The second measure contains an E6 chord (root position) with a tritone substitution (D#6) indicated by a bracket. The notation includes treble and bass staves, and the chords are labeled with their root positions and inversions.

EAR TRAINING.

Be able to recognize the dominant seventh in either the root position or any inversion.

EXERCISE.

Write the dominant seventh in root position, and also in its various inversions, in various major and minor keys, preceding each dominant seventh by one other chord, which may be the dominant when desired, and following it by a chord to which it may progress correctly.

Chapter Seventeen.

APPLICATION OF CHAPTER SIXTEEN IN HARMONIZING MELODIES IN MAJOR AND MINOR MODES.

- a. As a rule, the dominant seventh may be used whenever the V would be possible, excepting in the case where the second degree of the scale is followed in the given melody by the third. If the dominant seventh is used to harmonize the second degree in this case, faulty doubling in the following chord will result, except in some rare cases where the deceptive cadence would be possible.
- b. When, in the given melody, the fourth degree of the scale is followed by the third, the dominant seventh may be used to harmonize the fourth degree.
- c. The progression of the fifth degree to the sixth in the given melody occasionally gives an opportunity for the dominant seventh to harmonize the fifth degree and make a deceptive cadence.

d. The dominant seventh is to be preferred to the V in a final cadence.

e. Opportunities for the special progressions noted in Sections o, p, q, and r of the preceding chapter should be carefully noted and made use of.

Example:

Fig. 37



EXERCISE.

Re-harmonize two previously written periods in the major mode, and two in the minor mode, making use of the dominant seventh wherever possible.

INVENTION.

Invent four new periods in different major keys, and four in different minor keys, using various meters. Invent these with the effect of the dominant seventh in mind. Provide occasional skips in the melody from one note of the dominant seventh to another. As chord repetition suspends all rules, these skips may be always handled by change of arrangement or inversion of the chord.

Harmonize these melodies.

Chapter Eighteen.

THE CONTRAPUNTAL DEVICES OF "SUSPENSION" AND "ANTICIPATION."

(To be omitted if Chapter Fifteen has not been studied.)

a. Various suspensions, already in use by the pupil in his exercises in Strict Counterpoint, may be applied to his exercises in harmony. Their treatment is the same in both cases, subject to the following restrictions:

b. Suspensions should always occur on accented beats, generally on the first beat of the measure; their resolutions should generally occur on a less strongly accented beat of the measure.

With the exception of the suspension of the ninth, no suspension should sound at the same time as its note of resolution.

With regard to the suspensions in the Bass, we may state that the suspension *to* the third of a chord is the only one whose effect is good at present.

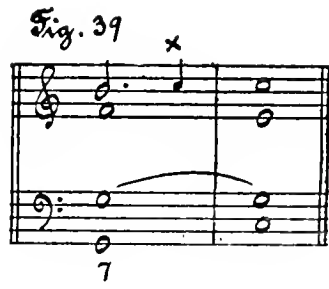
c. Examples:

Fig. 38



- d. The device of anticipation may be defined as being the reverse of that of suspension, seeing that it arises from a note anticipating a note of the next chord instead of delaying until that chord is sounded by the other voices, as is the case with suspension.
- e. Examples:

Fig. 39



- f. An anticipation should occur on the last fraction of a beat, as in the given examples. The best anticipations are those of the resolutions of the leading tone and of the seventh of the dominant seventh, although others are by no means forbidden.
- g. Subject to the above restrictions, suspensions may occur in any voice, but anticipations are best employed as a rule in the Soprano in the development of melody.

EXERCISE.

Work over the material of the invention in the preceding chapter, introducing suspensions and anticipations whenever their effect seems good.

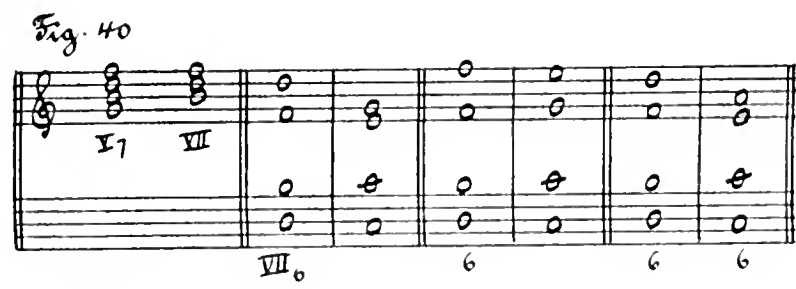
Double suspensions may be employed when productive of good effect.

Chapter Nineteen.

THE EVOLUTION AND USE OF THE TRIAD ON THE LEADING TONE IN MAJOR AND MINOR MODES, AND OF THE SUPERTONIC TRIAD IN THE MINOR MODE.

- a. On account of the similarity of its effect and treatment, the triad on the leading tone in the major and minor modes is to be regarded, and generally treated, as the dominant seventh chord with its root omitted.

Fig. 40

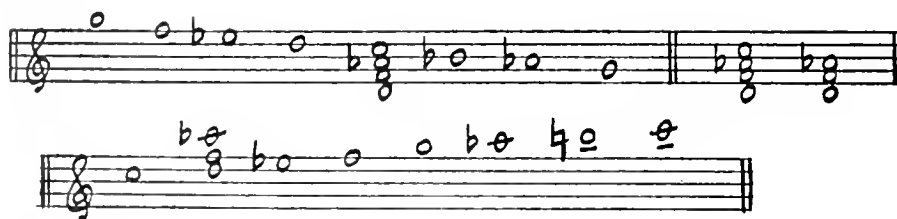


- b. In the above illustrations it will be seen that the "root" and fifth of this chord are treated in exactly the same manner as the third and seventh of the dominant seventh.
- When the fifth of the chord is doubled, one of these tones should be treated like the seventh of the dominant seventh, while the other should be led upward by degree, as the fact of its being in dissonance with its apparent root forbids it to skip.

The third of the chord is the one most frequently doubled. As an active tone, it tends to resolve to the first or third degree of the scale, but as these tones are taken by the resolution of the apparent root and the fifth, the chord third may be treated freely, providing the following chord is correctly doubled.

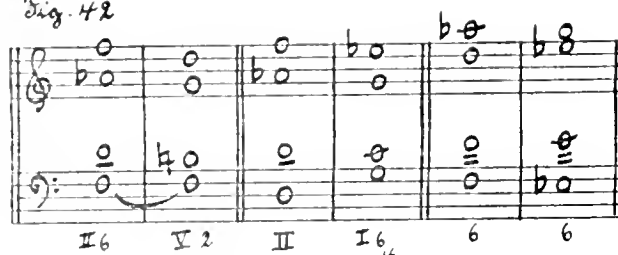
- c. All inversions of this chord are possible, but the first inversion is to be generally preferred, on account of the weakness produced by the dissonances of the diminished fifth or augmented fourth above the Bass in the root position or second inversion. As this chord is predominantly a fragment of another chord, its second inversion may double its chord fifth or chord third.
- d. The chord may be preceded or followed in the same manner as the dominant seventh, although the deceptive cadence in the minor mode is sometimes inconvenient.

Fig. 41



- e. The above figure shows the theoretical minor scale with an undertone seventh chord projected from its fifth degree. If the generator of this chord, fifth degree of the scale, be omitted, we will have a chord which will be seen to be the supertonic triad in the harmonic minor mode. This undertone seventh chord will be discussed more fully in Chapter Twenty-two.
- f. As the root and fifth of the supertonic triad in minor are active tones, and are in dissonance to each other as well, their active tone tendencies become more accentuated. Consequently the usual progression of this chord is toward chords containing the third and fifth of the scale, although the chord may also move to dominant chords by resolving its fifth and tying over its apparent root. Its doublings and inversions may be treated in the same way as those of any other secondary triad, although as, like the triad on the leading tone, it is a chord fragment, its second inversion may double either fifth or third.
- g. Examples of treatment:

Fig. 42



The progression II-I₆ noted before in the major mode, is now allowed in the minor mode.

- h. The progressions II-III and III-II are now allowed in the minor mode, but, when III is a major triad, will sound rather too much like progressions in the relative major.

EAR TRAINING.

Note the difference in effect between the II in the minor mode and the other diminished chords just studied, due to different functions in tonality.

EXERCISE.

Re-harmonize two previously written periods in major keys, and three in minor keys, using the material given in this chapter whenever possible.

- i. The triad on the leading tone has not sufficient strength for a cadence chord.

Chapter Twenty.

THE EVOLUTION AND TREATMENT OF THE SECONDARY SEVENTH CHORDS IN THE MAJOR MODE.

- a. In Chapter Sixteen, we found the dominant seventh to be the only diatonic seventh chord made by overtones. Although an undertone seventh chord, or one that may be explained as such, may be noticed, it really arises from a different source, as will be seen later.



In the above figure, we have a seventh chord erected on every degree of the major scale. That erected on the dominant has been already studied; that on the leading tone, just alluded to, will be discussed in Chapter Twenty-eight.

We may classify the remaining seventh chords in the following manner: those on the second, third, and sixth degrees may be said to consist of a minor triad plus a minor seventh; those on the first and fourth degrees may be said to consist of a major triad plus a major seventh. The different effect of these two classes of chords, as well as their different functions in music, leads us to name those in the first class "Secondary Sevenths" and those in the second class "Tertiary Sevenths." We will study the former in the present chapter.

- b. We may account for the existence of these chords by regarding them both as combinations of triads and as approximations of the natural but undiatonic sevenths. This is illustrated below:



This theory is sustained by the fact that the characteristics of each of these chords is the sum of the characteristics of the triads of which it is composed.

- c. As the triads composing any one of these chords belong in the same family, we may say that the II₇ belongs to the subdominant family, the III₇ to the dominant family, and the VI₇ to the tonic family.
- d. These chords may be preceded or followed by any chord which would make a good progression with either of their constituents. Any one of these chords may be preceded by either of its con-

stituents, but no constituent should follow a seventh chord of which it is a member, as it is plain that such a process destroys the sense of progression.

- c. When a secondary seventh chord progresses to another chord which does not contain the seventh of the seventh chord as common tone, the seventh should resolve one degree downward in the usual manner. This is called "Active Resolution."

Examples:

Fig. 45

II₇ II₇ VI_{6/5}

- f. When the seventh of the seventh chord can be sustained as a common tone, the so-called "Passive Resolution" results.

Examples:

Fig. 46

VI_{6/5} II_{6/5}

- g. Note that, in active resolution, the dissonances resolve by the downward leading of the seventh, and that, in the passive resolution, the dissonances resolve by the progression of the chord.

- h. A common fault is illustrated below:

Fig. 47

II₇

The incorrect resolution of a seventh to an octave is here illustrated. When the interval of a seventh occurs, conjunct movement of the lower voice is against the nature of the seventh. It is the upper voice that should either move conjunctly downward, or be tied over.

- i. Active tones should be treated as before, except where they occur as the roots of constituent triads, in which case they may progress freely.

- j. These chords are inverted and figured the same way as the dominant seventh. No member should ever be omitted in root position or inversions, as some of the quality of the chord will be lost.
- k. In this, as in all dissonant chords, the dissonances should be treated as directed in Chapter Sixteen, Section k.

In former times, the sevenths of these chords were always "prepared" like suspensions; this is no longer necessary, but the pupil should familiarize himself with the effect of the prepared as well as the unprepared seventh.

EXERCISE.

Write the secondary sevenths in root position and inversions in various major keys, preceding each chord by a correctly chosen chord and resolving it either actively or passively. Obtain as much variety in the choice of chords as possible.

- It is possible to lead one seventh chord to another as shown below.



- u. The progression II_7-I_6 , illustrated at the end of the above example, is another exception allowed in the treatment of the I_6 .

Chapter Twenty-one.

APPLICATION OF CHAPTER TWENTY TO HARMONIZATION OF MELODIES IN THE MAJOR MODE.

- The following method will be found useful:

(1) Select a melody in period-form, and indicate its cadences by writing Roman numbers over the melody notes at such places.

(2) After filling out the first Tonic chord, look carefully over the melody and indicate the use of secondary sevenths wherever such chords seem possible.

While it is true that any note of the scale may be harmonized with the secondary seventh chords, the following cases may be eliminated at once:

(A) Where the conduct of the melody would imply a bad chord progression in case a secondary seventh should be used.

(B) Where the chord seventh would occur in the Soprano and progress upward or by skip in either direction. This may be sometimes handled when the melody implies chord repetition.

(C) Where the Soprano would not hold the chord seventh, but yet would make a skip to some note not in the same seventh chord

(D) Where more than three seventh chords would be used in direct succession. (This is often unmusical.)

(3) The three lower voices may now be added. The Bass should be led as before, but it will be better now to write the Alto and Tenor with it, as the best way of avoiding useless difficulties. Careful attention to the correct treatment of the seventh chords will sometimes demand a change in the previously determined scheme.

EXERCISE.

Apply the above method in re-harmonizing two previously written periods in the major mode.

INVENTION.

Write four new periods in major keys with the effect of the secondary seventh chords in mind. If a good Bass may be obtained, melody and harmony may be written together. The pupil should attempt to do this in at least two of his inventions for each of the following chapters.

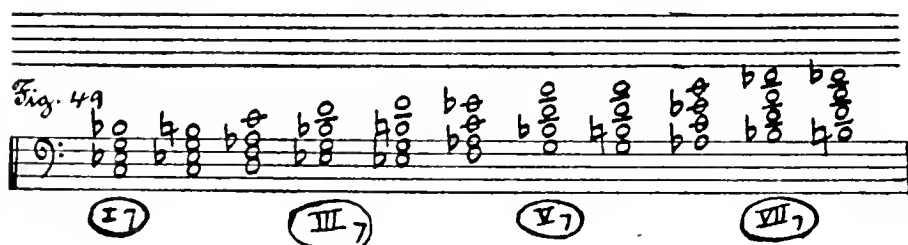
EAR TRAINING.

From the effect of the seventh chords in the above work, learn to recognize them by name, method of resolution, and inversion.

Chapter Twenty-two.

THE EVOLUTION AND TREATMENT OF THE SECONDARY SEVENTH CHORDS IN THE MINOR MODE

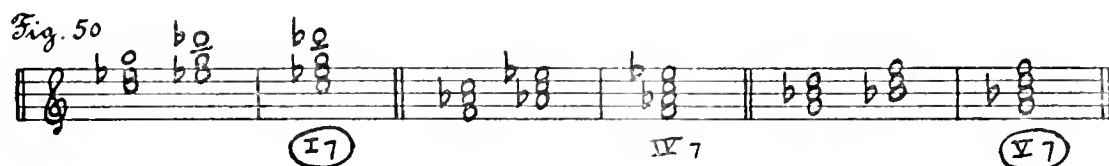
a. In this chapter, we may employ the same general method used in Chapter Twenty.



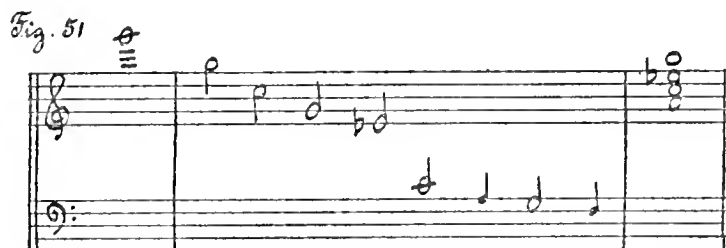
In the above figure, we have a seventh chord erected on every degree of the minor scale. The "melodic" form of the minor scale will not be treated for the present. On account of the two forms of the seventh degree, we find two kinds of seventh chords on the first, third, fifth, and seventh degrees of the scale. For convenience, we will designate all seventh chords containing the natural seventh degree by drawing a ring around the Roman number that indicates them. For instance, in the above figure the chord C-E flat-G-B flat will be indicated by (I_7); the chord C-E flat-G-B natural will be indicated by I_7 , and so on.

For reasons given in the third paragraph of Section a of Chapter Twenty, we may classify the I_7 , the (III_7), and III_7 , and VI_7 as "Tertiary Sevenths," and reserve their study for a later time. The VII_7 will be discussed in Chapter Twenty-eight; the V_7 is already familiar as the dominant seventh; the (VII_7) is identical in form and effect with the dominant seventh of the relative major key, and should be used at present only in modulation to that key, or to its relative minor. This leaves us for genuine secondary sevenths the (I_7), II_7 , IV_7 and (V_7).

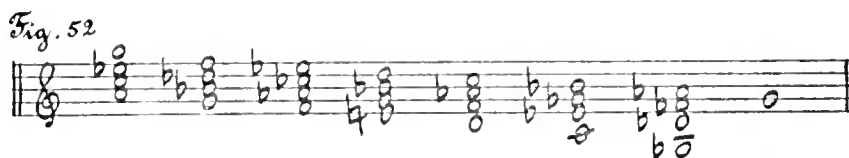
- b. With the exception of the II_7 , these secondary sevenths may be accounted for, classified, and treated like the secondary sevenths in the major key, so we will find that the (I_7) belongs to the Tonic family, the IV_7 to the sub-dominant family, and the (V_7) to the Dominant family. The following illustration will make this clear:



- c. With regard to the II_7 , the following theory should be employed:



The above figure gives an undertone series extended further than hitherto used. (It should be compared with the overtone series treated of in Chapter Sixteen.) From the generator and the first six undertones, we may derive the chord included in the above figure. It may be defined, as we think it upward, as a diminished triad plus a minor seventh, but, if read downward, will be seen to be projected downward by the same series of intervals as the dominant seventh is built upward. This chord may be used as a diatonic undertone chord on the fifth degree of the theoretical minor scale only, as shown below.



This chord reappears in the modern minor mode as the II_7 . Its origin accounts for its great strength. The student has probably noticed before this that Dominant harmony in the theoretical minor key becomes Subdominant harmony in the modern minor key, so that it should cause no confusion if we classify this chord as the strongest seventh chord in the Subdominant family.

- d. For convenience, we may also take the view of this chord as being composed of the II and IV as constituents. With this in mind, we may say that the rules for its introduction and progression are the same as for all other secondary seventh chords, excepting only that, as it belongs to the same family as the IV_7 , but is stronger than it, it may follow the IV_7 , but should not precede it.

- e. Sections *l* and *m* of Chapter Twenty may be applied here also.

Examples:

Fig. 53

(I₇) IV_{4/3} IV₇ V IV₇ I II₇ I_{6/4}

EXERCISE.

Work out the exercise of Chapter Twenty in various minor keys, following the given directions.

- f.* When using the minor mode, avoid having the natural seventh of the scale in one chord and the leading tone in the following chord, and vice versa.

Chapter Twenty-three.

APPLICATION OF CHAPTER TWENTY-TWO IN HARMONIZATION OF MELODIES IN THE MINOR MODE.

- a.* The method given in Chapter Twenty-one may be applied in the minor mode.
- b.* Careful attention should be directed to Division 2 of Section *a*, as well as to Section *f* of the preceding chapter.
- c.* The exercise, invention, and ear training of Chapter Twenty-one should now be worked out in various keys, but in the minor mode.

Chapter Twenty-four.

THE EVOLUTION, TREATMENT, AND APPLICATION OF THE TERTIARY SEVENTHS IN THE MAJOR MODE.

- a.* Returning to Figure 43 in Chapter Twenty, we find tertiary sevenths on the first and fourth degrees of the major scale.

We may apply the theory of origin given in Chapter Twenty to these chords as well. The application of this theory is illustrated below.

Fig. 54

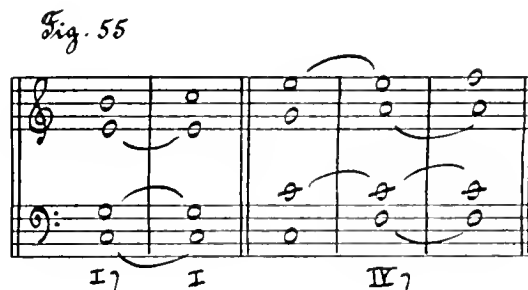
I₇ IV₇

Note that tertiary sevenths are composed of a union of two triads not in the same family, so these chords should be regarded as standing midway between the families of their constituents. This combination of two different elements accounts in great measure for the characteristic effect of such seventh chords.

- b.* Section *d* of Chapter Twenty applies to these chords as well, with the following exception:

The sevenths of these seventh chords may also resolve one degree upward, as the tendency for such a resolution seems to be a characteristic of the interval of a major seventh. The lower constituent of such a seventh chord may be sustained or not.

Examples :



c. Sections *c*, *f*, *g*, *h* and *i* of Chapter Twenty may be applied here as well.

d. The best forms of these chords are those of the root position and first inversion, as this places the roots of the constituent triads in the Bass. The chord sevenths should generally be placed in the Soprano, and, unless the sevenths are prepared, the roots and sevenths should be at least a seventh apart. As in secondary sevenths, no member should be omitted.

e. On account of the greater dissonance of these chords, their sevenths should be more frequently prepared than those of the secondary seventh chords.

Example :



f. Note that the primary sevenths are the only ones which contain the leading tone and have principal tones for both root and seventh. Note that secondary seventh chords generally have principal tones for third and seventh; note that this is not the case with tertiary sevenths which have them as root and fifth. As the dissonance of a seventh throws the tones composing it into high relief, the facts just mentioned may account for the primary sevenths having the greatest key-determining power and the tertiary sevenths the least.

EXERCISE.

Apply the exercise of Chapter Twenty to the tertiary sevenths in various major keys.

g. Tertiary sevenths are not used as often as secondary sevenths, as their acute dissonances are seldom needed.

INVENTION.

Compose two periods in major keys with the effect of the various seventh chords in mind. Harmonize them according to the method given in Chapter Twenty-one.

The materials of Chapters Fifteen and Eighteen may be applied here also, as well as throughout this course, but the following fact should be noted: suspension is the only device which always sounds well in combination with tertiary sevenths, in fact, there is little or no difference between a chord seventh that is prepared and resolves one degree downward and a suspension. By such means, all of our seventh chords evolved into our musical vocabulary. The seventh of a tertiary seventh, which is prepared and then resolved upward, has the effect of an upward resolving suspension.

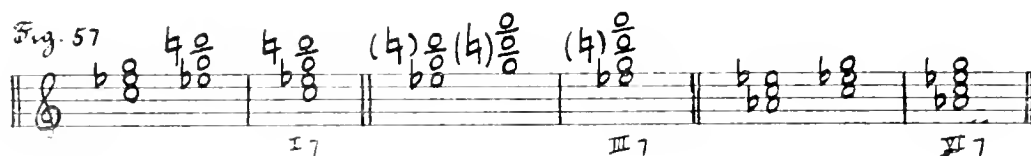
The passive resolution of the Subdominant seventh makes an acceptable perfect cadence that seems somewhat plagal in effect.

Chapter Twenty-five.

THE EVOLUTION, TREATMENT, AND APPLICATION OF THE TERTIARY SEVENTHS IN THE MINOR MODE.

- a. Referring to Figure 49 in Chapter Twenty-two, we find tertiary sevenths on the third and sixth degrees of the minor scale. Note that the tertiary seventh on the third degree of the minor scale has two forms, one with the perfect fifth and the other with the augmented fifth. The use of the leading tone will also give us a tertiary seventh on the first degree.

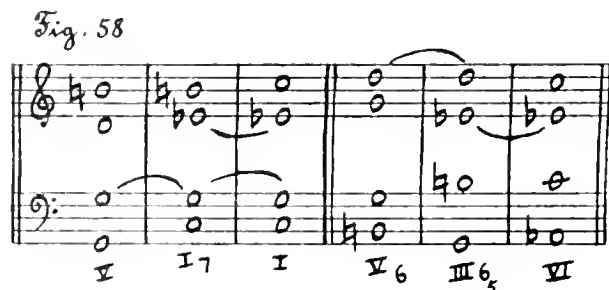
We may apply the same theory of origin as that given for the tertiary sevenths in major keys; its application is illustrated below.



The third paragraph of Section *a* of the preceding chapter applies here also.

Section *b* of the preceding chapter also applies here.

Examples:



Note that the seventh of the *I*₇ cannot be led downward, as it would give rise to a step of an augmented second, or to the presentation of the seventh degree of the scale first as leading tone and then as natural seventh.

b. Sections *c*, *d* and *e* of the preceding chapter apply here also.

Examples:



c. Observe the application of Sections *f* and *g* of the preceding chapter to these chords.

EXERCISE.

Apply the exercise of Chapter Twenty to the tertiary sevenths in various minor keys.

Obtain all the variety of effect possible by using both the prepared and the unprepared seventh, and also both forms of the III₇.

EAR TRAINING.

Be able to distinguish between the various forms and kinds of seventh chords studied by name, inversion, and if possible, by location of the seventh of each chord. Note different effects produced by the two forms of the III₇.

INVENTION.

Work out the invention of the preceding chapter in three different minor keys.

Chapter Twenty-six.

THE FIRST SPECIES OF MODULATION—ITS EVOLUTION AND TREATMENT.

a. Modulation may be briefly defined as the process of changing from one key to another. The keys in question will be found to have the same relation between themselves that chords in the same key have to each other. This refers particularly to the Tonic chords of such keys.

As two chords may have one or more common tones, so we will find that two keys have one or more common chords. As each of these common chords occurs in the different keys, even if under a different name in each key, it may be used as a "bridge" for passing from one key to another.

b. By referring to Chapters Twelve and Fourteen, we will find discussions and illustrations of the relation to the Tonic of five of the other triads of each key. If these triads are taken as the Tonic triads of new keys, the relation between these new keys and the original Tonic center will be found to be the same. The VII in major keys, and the II and VII in minor keys, may be disregarded in this work, as, being diminished triads, they can be the Tonic triads of neither a major nor a minor key.

c. By taking the various major and minor triads of the major and minor keys in turn, we find that we may modulate, in the major key, to the keys whose Tonic triads are the same as the triads on the second, third, fourth, fifth, and sixth degrees of the scale. On account of the form of these triads, the keys represented by the triads on the second, third, and sixth degrees of the major

scale must be minor keys, and those keys represented by the triads on the fourth and fifth degrees of the major scale must be major keys. For example, we may modulate from C major to any one of the following keys: D minor, E minor, F major, G major, A minor.

The most satisfactory form of modulation from minor keys is that which is based on the minor scale with natural seventh. Applying the principle given in the preceding paragraph, we find that we may modulate, in the minor key, to the keys whose Tonic triads are the same as the triads on the third, fourth, fifth, sixth, and natural seventh degrees of the scale. On account of the form of the minor scale just mentioned, the V must be a minor triad, and the VII a major triad. On account of the form of these triads the keys represented by the triads on the third, sixth, and seventh degrees of the minor scale must be major keys, and those keys represented by the triads on the fourth and fifth degrees of the minor scale must be minor keys. For example, we may modulate from A minor to any one of the following keys: C major, D minor, E minor, F major, G major.

- d. These possible modulations are grouped under the title of "The First Species of Modulation."
 e. We may illustrate the use of our materials and resources in the following manner:



In the above figure, we have the scales of C major and D minor, each scale having triads erected upon it according to its own key. The "common chords" are connected by lines.

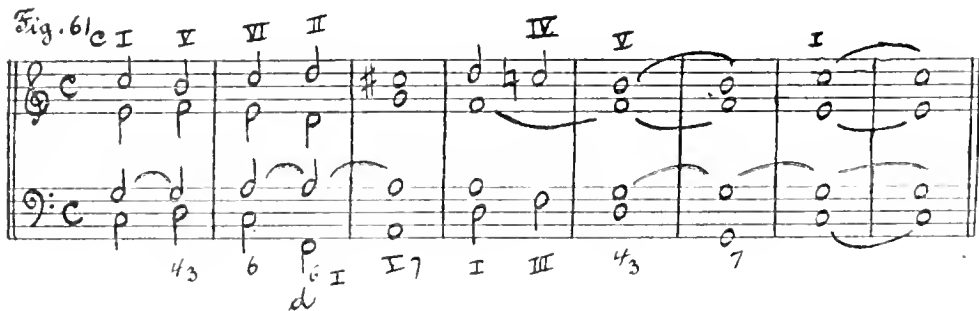


Figure 61 above is an example which begins in the key of C major, proceeds to a chord that is common to both C major and D minor, and then makes a cadence in D minor, after which it proceeds to another common chord, and by its means, back to a cadence in C major.

- f. Note that the dominant seventh chord is used to establish the key in which we begin, to confirm the key to which we modulate, and to re-establish the original key upon our return to it. Upon investigation, we will find that the dominant seventh of any key does not occur as a diatonic chord in any of the other keys to which we may modulate at present. This accounts for our use of it as mentioned just above, in confirming a key.

- g.* Observe from Figure 61 that the same means employed in modulating are used in returning to the original key.
- h.* Avoid the use of bridge chords which would necessitate the use of the leading tone of a minor key directly after its natural seventh, or vice versa.

INVENTION.

By means of a table of common chords similar to Figure 60, construct examples of the first species of modulation similar to Figure 61. Obtain as much variety as possible in the choice of bridge chords and modulations.

These inventions need not be in period form at present.

- i.* By adding a seventh to each of the triads shown in Figure 60 various "common seventh chords" will be obtained.

INVENTION.

Work out inventions similar to the preceding one, making use of "common seventh chords."

Pay particular attention to Section *h* above.

- j.* Some of the above inventions should make use of the second inversion of the Tonic triad of the key to which the modulation is made, placing it on an accented beat, and following it by the dominant seventh of this new key. This use of the second inversion has been hitherto forbidden for secondary triads, as it promises a modulation which could not be applied until now; the use of such a second inversion may be now justified by the work just taken up.

- k.* "Bridge chords" are not invariably used in modulation. Providing that the key succession is correct, we may anticipate a new key by placing one of its subdominant secondary seventh chords before the dominant seventh of the new key, or before its I_4 followed by its dominant seventh. The same device may be used in returning to the original key.

Example:

Fig. 62

The figure shows two systems of musical notation, each with a treble and bass staff. The first system modulates from C major to G major. It starts with a C major triad (I), followed by a G major triad (I), then a G major triad in second inversion (II₆), and finally a G major dominant seventh chord (V₇) which resolves to a C major triad (I). The second system returns from G major to C major. It starts with a G major triad (I), followed by a G major triad (I), then a G major triad in second inversion (II₆), and finally a C major dominant seventh chord (V₇) which resolves to a C major triad (I). The notation includes Roman numerals (I, II₆, V₇) and figured bass notation (4₃, 2, 5, 7, 8) for the chords. The word 'etc.' is written at the end of each system.

Section *h* above applies here also.

The use of tertiary sevenths in the work of Section *k* is not to be recommended.

INVENTION.

Apply the device mentioned in Section *k* in various inventions similar in form to those just written.

Chapter Twenty-seven.

THE DOUBLE PERIOD. "FREE RESOLUTION" OF SEVENTH CHORDS.

- a. A double period consists of four phrases, and may be regarded as a development of the simple period already familiar.

Particular attention should be paid to the treatment of the cadences. The cadence at the end of the second phrase should generally be a half-cadence of considerable rhythmic weight and effect, in order to terminate the first half of the double period, but, at the same time, not to bring it to a full close. The cadences at the ends of the first and third phrases are generally half-cadences of less rhythmic weight and prominence than that at the end of the second phrase. They may, however, occasionally employ cadences to the first inversion of the Tonic chord, or to the root position or first inversion of the VI.

A fine example of the form of the double period will be found given by the first sixteen measures of Beethoven's Sonata for the Piano, Opus 26. Other examples of the double period should be looked up, taking this one for a model.

- b. Note that the first and third phrases of the double period are always alike, except possibly toward their ends, although the third phrase sometimes gives the material of the first in a more ornamented form.

The second and fourth phrases may be more or less alike as in the example we just quoted; their ends must, of course, be somewhat different on account of the different cadences necessary.

Double periods will frequently be found in which the second and fourth phrases are quite dissimilar, and such forms should be constructed by the student, but all true double periods will have the beginnings, at least, of their first and third phrases alike or very similar.

INVENTION.

Expand several previously written inventions into double periods. Obtain as much variety as possible in the treatments given the second and fourth phrases.

- c. The treatment given the dominant seventh in the preceding chapters is the only one possible, on account of the strong progressive tendency of its third and seventh. As the secondary seventh chords do not tend to progress so strongly, certain freer treatments of their sevenths have been in use since the time of Haydn. These freer treatments are known as "Free Resolutions." They are possible with both secondary and tertiary sevenths, but are generally to be preferred with the former when opportunity for them is encountered. We have two types of free active resolution and two types of free passive resolution, which are here illustrated and discussed.
- d. In all of these treatments note that the chord succession is correct. This must be always the case, even with free treatments.



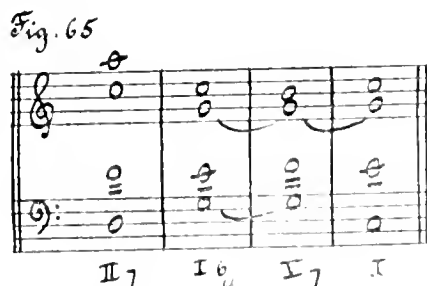
e. In the above figure, note that the seventh of the first chord is taken by the Alto and its tone of resolution is taken just below it by the Soprano of the following chord. This is the first type of free active resolution, in which, as the chord seventh is obliged to move, it *falls* to a note of the following chord while another voice of the following chord takes the tone of resolution at the same level that the seventh itself would have taken, had the seventh resolved in the usual strict fashion.

This type of resolution will be found, upon experiment, to be effective when the seventh is taken by the Alto or Tenor.



f. In the above figure, note that the seventh of the first chord is taken by the Tenor and its tone of resolution is taken a ninth below it by the Bass of the following chord. This is the second type of free active resolution in which, as the chord seventh is obliged to move, it *falls* to a note of the following chord, while another voice of the following chord takes the tone of resolution at the distance of over an octave below it.

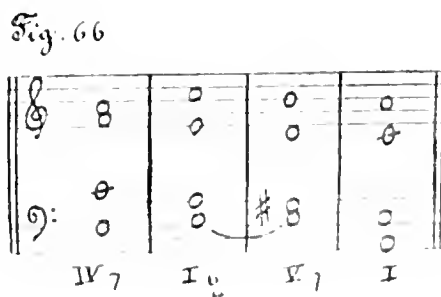
This type of resolution, like the previous type, is most effective when the seventh is taken by the Alto or Tenor.



g. In the above figure note that the seventh of the first chord is taken by the Alto, which leaps down, allowing the Soprano to passively resolve the seventh by taking it *on the same level* in the following chord. This is the first type of free passive resolution.

As, in passive resolution, the chord seventh is repeated, the voice which takes the seventh may move either up or down.

This type of resolution may occur when the seventh is taken by the Soprano, Alto, or Tenor.



h. In the above figure, note that the seventh of the first chord is taken by the Tenor, and that this note is taken by the Soprano in the next chord *on a different level*. This is the second type of free passive resolution.

As this also is passive resolution, in which the seventh is repeated, the voice which takes the seventh may move either up or down and the repetition of the seventh in the next chord may be at either a higher or a lower level.

This type of resolution may occur when the seventh is taken by the Soprano, Alto, or Tenor as before.

i. When the seventh of a chord appears in the Bass, free resolution will be found difficult.

EXERCISE.

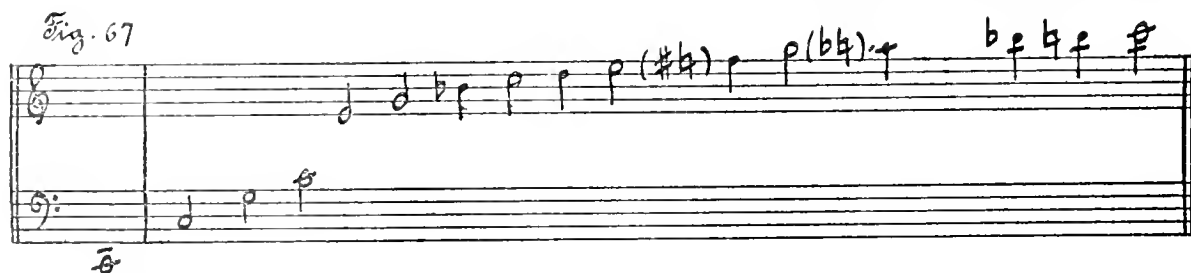
Write various examples of the different kinds of free resolution in various chords and keys.

These may be combined, with great profit, in the work on the double period, as they permit much more freedom in the handling of melodies.

Chapter Twenty-eight.

THE EVOLUTION, TREATMENT, AND APPLICATION OF THE PRIMARY NINTH CHORD, AND THE SEVENTH CHORD ON THE LEADING TONE, IN MAJOR AND MINOR KEYS. FIVE PART HARMONY.

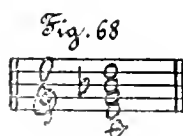
a. With the exception of the seventh chord on the leading tone in the major and the minor key, which will be explained later, the derivation and use of all the diatonic seventh chords has been treated of in the preceding chapters. Further harmonic material must consist of chords of *five* different notes. We will investigate the following series of overtones in the effort to find such a chord.



b. The above figure contains the most extended series of overtones needed for our studies in diatonic harmony. The following remarks may be made about it before going further:

Note the double "accidental" before the tenth and twelfth overtones. These notes are so modified because their sounds stand between the two tones implied by the two "accidental" signs. The eleventh, thirteenth and fifteenth overtones are duplications of tones already found in the series: the fourteenth overtone might be used to explain the origin of such chords as the I_7 , but, upon further consideration, such a treatment of this overtone will be seen to be arbitrary and far-fetched.

c. We may obtain a chord of five different notes from the fundamental and the first eight overtones (first to ninth partials), which may be reduced to the following form.



On account of the interval of a ninth between the root and top note of this chord, it is called a "Chord of the Ninth." We may describe this chord by saying that it consists of a major triad, minor seventh, and major ninth.

- d.* Like the dominant seventh, this chord will be seen to be possible as a diatonic chord on the fifth degree only of the major scale. We may call this, therefore, "The Dominant Chord of the Ninth." On account of its natural origin, it is the only primary ninth chord in the diatonic key-scheme.
- e.* In our previous comparisons of the series of overtones and undertones, we have found that the undertones were built downward by the same series of intervals with which the overtones were built upward. This has been found to hold good in the more extended series, so a table of undertones as complete as the overtone table of Figure 67 may be built. By taking the generator and the first eight undertones, we find that we can get an undertone ninth chord of exactly the same form as Figure 68, and, by investigation, we will find that this is a possible undertone chord from the first degree of the modern minor scale. The chord is not used in the minor key, as we not only think it upward, but associate it entirely with the relative major key. The latter reason forbids our use of this chord as an overtone ninth chord on the natural seventh degree of the minor scale, except upon rare occasions.

In actual practice, we use this chord as an overtone chord on the Dominant of the minor scale, lowering its ninth to make it conform to the key.

- f.* Note that the dominant ninth chord determines not only the key, but the mode, as may be seen from a comparison of the dominant ninths of C major and C minor.
- g.* We may regard and treat the dominant ninths of the major and minor keys alike. They may be regarded as a combination of the dominant seventh with a major or a minor ninth, according to key. The root, third, and seventh of this dominant seventh are to be treated as before; as the ninth is a dissonant active tone it should be invariably led one degree downward. Because of this resolution of the ninth, the fifth of the chord, if present below the ninth, should be led to the third of the scale in the following chord, to avoid consecutive fifths with the ninth. If the fifth is above the ninth, it may go to the first degree of the scale as before.
- h.* As the dominant chord is a primary dissonance, it is too close to the Tonic family to passively resolve its ninth.
- i.* The ninth may lie in any part but the Bass, in order to maintain its true character, and, for the same reason, must be always at least a ninth above the root.

Subject to these restrictions, the dominant seventh element of this chord may be freely inverted.
- j.* In four part harmony, the fifth is generally omitted, as we can do best without it. Occasionally one finds dominant ninth chords with third omitted and fifth present.
- k.* In all forms of the chords of the ninth, and the chords of the eleventh and thirteenth which are to be studied later, the sevenths of the chords are necessary for good effect.

Examples:

Fig. 69

str.

l. This chord, like the dominant seventh, requires no preparation.

The ninth may be resolved before the seventh, but not after it, except where the effect of suspension is required.

m. The ninth may fall to some tone of the dominant seventh chord, achieving, in a sense, a sort of free active resolution of the second type. The chord may be preceded by the V_7 or by any chord that can precede the V_7 .

Examples:

Fig. 70

n. Like the dominant seventh chord the dominant ninth may appear without its root. This may account for the origin of the seventh chord on the leading tone. Such a chord, in the minor key, is called "The Chord of the Diminished Seventh."

o. The treatment of each tone of this chord is the same as that employed when the fundamental is present.

On account of the absence of the fundamental, the ninth may occur in the Bass.

Examples:

Fig. 71

EAR TRAINING.

Learn to recognize the difference between the dominant ninth chords with and without root in major and minor modes. If possible, be able to distinguish these chords by inversion as well as by the position of the seventh and ninth.

Note the similarity in form between the dominant ninth without root in a major key and the supertonic seventh in its relative minor key. Compare this fact with the actual difference in the effects and treatments of these chords.

EXERCISE.

Write the above four chords in various inversions and keys, with various combinations of prepared and unprepared dissonance. Resolve each chord.

Apply these chords in some exercises in modulation, as in Chapter Twenty-six, for confirming the keys. Note that those with root are the most effective for this.

INVENTION.

Write two double periods in major keys, and two in minor keys, using these chords.

p. As members of cadences, the dominant ninth chords with root are to be preferred to those without root.

q. FIVE PART HARMONY. Five part harmony is particularly valuable for the treatment of complicated chords or the attainment of sonorous effects

The only new directions which are needed are those concerning doubling. The old rules for doubling are generally valid.

r. Any member that may be doubled in four part harmony may be tripled in five part harmony. The application of this fact allows wider choice of effects in the treatment of dissonant chords.

When necessary, the thirds of principle chords may be doubled if they can enter smoothly, but this should be avoided whenever possible, particularly with regard to the leading tone.

Chord fifths may be doubled. A chord may consequently appear with both its root and fifth doubled.

Six-four chords may triple their fifths or double both root and fifth, or the second inversion of secondary triads may double their fifths and thirds.

We may double the leading tone and the root, or the third, in the second inversion of the III in major keys, but the leading tone should never be tripled.

The triad on the leading tone may double both its third and fifth, or triple its third. An augmented triad should generally double its root and third, or triple its third, in all positions.

With the exception of the triad on the leading tone, no chord seventh, ninth, eleventh, or thirteenth should be ever doubled.

Secondary and tertiary seventh chords may double their thirds when convenient, as these are the roots of constituent triads.

s. The choice between different doublings or between doubling and tripling will depend on the requirements of good voice leading

t. Ninth chords may occur complete, or with any of the doublings or triplings mentioned above.

When the fifths of seventh and ninth chords occur in the Bass, the best sonority is obtained by doubling them.

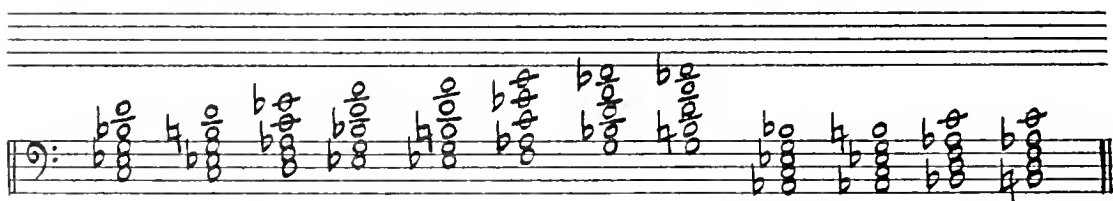
INVENTION.

Select various inventions done from Chapters Fifteen onward and rewrite them in five part harmony.

Chapter Twenty-nine.

THE EVOLUTION, TREATMENT, AND APPLICATION OF THE SECONDARY, AND TERTIARY CHORDS OF THE NINTH IN MAJOR AND MINOR MODES.

- a. By the addition of a third to each of the seventh chords in a major and a minor key, we will obtain the following series of ninth chords:



As the dominant ninth chords have already been discussed, we will turn to the study of the others.

- b. We will find that the ninth chord on the natural seventh degree of the minor scale is the only other one made from the overtones of its root or from the undertones of the ninth. This chord was discussed in Section *c* of the previous chapter.
- c. With regard to the other ninth chords, we may classify them according to the quality of their ninths, and call those chords which have major ninths "secondary ninth chords," and those which have minor ninths "tertiary ninth chords."
- d. The extreme dissonance of the tertiary ninths often renders them unmusical unless their ninths are prepared and resolved like suspensions, or unless the chords seem to arise as accidental formations of a "passing" character. They are not recommended for use at present.
- e. The secondary ninth chords may be regarded as a union of two seventh chords, as illustrated below.



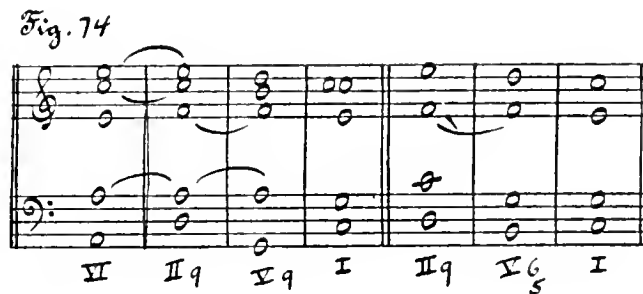
Those secondary ninth chords whose lower constituent seventh chords are secondary sevenths will be found to be more useful and of more agreeable sound than other formations of such chords. These chords may be preceded and followed by chords which would make good progression with either of their constituent seventh chords. This will also apply to the introduction of any one of these chords by either of their constituent seventh chords, or by any of the constituent triads of these seventh chords.

- f. These chords require preparation of their sevenths and ninths more frequently than the similar intervals of primary ninths, but they do not always demand it.

In resolving these chords, the root and seventh of each constituent seventh chord may be treated in any of the various ways previously used; that is, for instance, the seventh of one of the constituent chords may take one kind of resolution while the seventh of the other constituent seventh chord takes some different kind.

- g. These chords best occur, in five part harmony, with the root of one of their constituent sevenths in the Bass. In four part harmony, the chord fifth is the best note to omit.

Examples;



- h. Avoid leading the interval of a ninth to the interval of an octave by a movement of the lower note of the ninth.

The ninth may fall to some interval of the lower constituent seventh chord, but no secondary ninth chord should be led to its upper constituent seventh.

- i. The ninth should be kept in one of the upper parts, the Soprano being preferred, and must be always at least a ninth above the root of the lower constituent seventh chord.
- j. The student is recommended to the study of the works of Grieg in which may be found fine examples of the treatment of these chords.

EAR TRAINING.

Learn to recognize the difference of effect between various varieties of these chords and the dominant chords of the ninth. This may be extended to include recognition of the position of the roots and sevenths of the constituent seventh chords.

EXERCISE.

Write various examples of different forms of introduction and resolution of secondary ninth chords in major and minor keys. Get as much variety as possible in the treatment of the constituent seventh chords.

INVENTION.

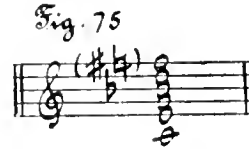
Construct two double periods, using a few secondary ninth chords in each one.

These chords should not be used often, but are sometimes effective, particularly when given free resolution.

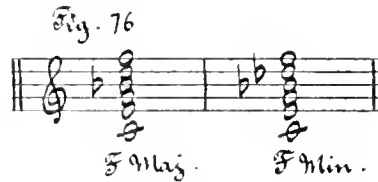
Chapter Thirty.

THE EVOLUTION AND APPLICATION OF THE CHORDS OF THE ELEVENTH AND THIRTEENTH IN BOTH MAJOR AND MINOR MODES.

- c. We may obtain a chord with six different notes from the fundamental and the first ten overtones. (See Figure 67.) These tones, after duplications have been omitted, will take the following form:



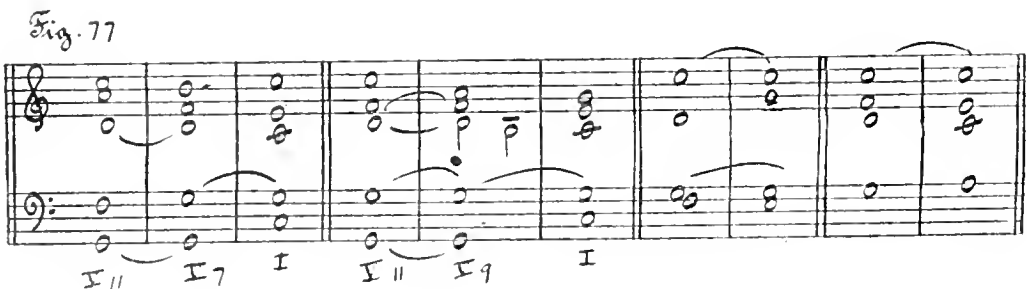
The distance between the root and top note will justify us in calling this a "Chord of the Eleventh." As the eleventh is out of key, we may alter it to fit the major or the minor key, with the following result, in which it will be seen that the minor ninth is used in the minor key.



- b. Like the dominant seventh and dominant ninth, this chord will be seen to be possible as a diatonic chord on the fifth degree only of the major or minor scale. We may call this, therefore, "The Dominant Chord of the Eleventh."
- c. As this is an extremely artificial form, we do not apply theories of undertones to this chord. Often as not the occurrence of the chord is more easily analyzed upon a contrapuntal basis.
- d. The extreme dissonance of the third against the eleventh causes us to omit the third for the present in all treatments of the chord, so that the chord can appear in five part harmony with root, fifth, seventh, ninth, and eleventh, with doubled root, seventh, ninth and eleventh being present, or with doubled root, fifth, seventh, and eleventh. In four part harmony, the chord generally appears with root, fifth, seventh, and eleventh, or with root, seventh, ninth, and eleventh.
- e. The eleventh should generally occur in the Soprano, and may be prepared or not.

The other intervals of the chord may be treated as they were in the dominant chord of the ninth. Consequently the eleventh may resolve one degree downward, may fall to a note of the dominant seventh or ninth chord, or, as it is a member of the resolving chord, may resolve passively.

Examples:

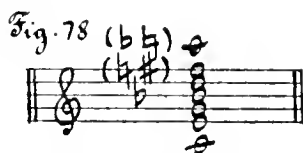


- f. This chord may be introduced in the same manner as the dominant ninth chord. The dominant ninth chord also may precede it.
- g. There is often no difference between the eleventh, which is prepared and then resolved one degree downward, and a suspension.
- h. The dominant eleventh chord has been found to require the omission of its third. If its root is omitted as well, the effect of the eleventh is completely lost, as the chord becomes a super-tonic seventh.
- i. Secondary and tertiary elevenths may be said to exist. They may be analyzed and treated like secondary and tertiary ninth chords, but their use is not recommended at present.

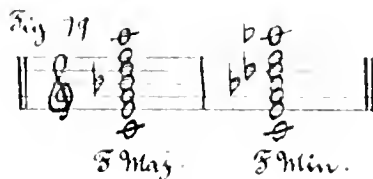
EXERCISE.

Construct various examples of the introduction and treatment of dominant eleventh chords in various major and minor keys, obtaining variety by the means suggested in Section d.

- j. THE CHORD OF THE DOMINANT THIRTEENTH. From Figure 67 of Chapter Twenty-eight, we may obtain a chord containing every degree of the scale, which may be condensed for present purposes to the following form:



The distance between the root and top note will justify us in calling this the "Chord of the Thirteenth." As the Thirteenth is out of key, we may alter it to fit the major or minor key with the following result:



- k. Like the dominant chords of the seventh, ninth, and eleventh, this chord will be seen to be possible as a diatonic chord on the fifth degree only of the major and minor scale. We may call this therefore "The Dominant Chord of the Thirteenth."

Section c of this chapter applies to this chord as well.

- l. This chord generally omits its fifth, as a note that is generally useless here. The thirteenth is generally best in one of the two upper parts, preferably the Soprano, although it occasionally appears in the Alto, with the doubled root above it. The eleventh may be used with the thirteenth, in which case the eleventh is generally taken by the Alto and the thirteenth by the Soprano. When the eleventh is used, the third must be omitted.

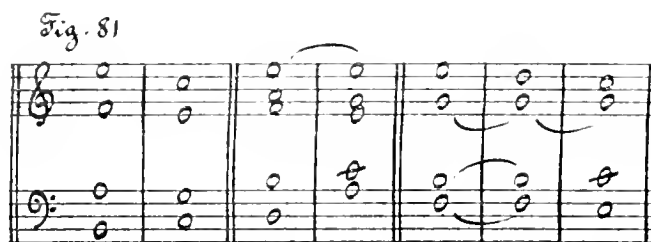
Other details of treatment may be applied as they were applied to the eleventh, in Sections d, e, f and g. The thirteenth may also fall or, rarely, rise to the first degree of the scale or rise or fall to the fifth degree of the scale when these intervals occur in the chord to which it resolves.

Examples:



- m.* The dominant thirteenth chord may occur without its root. In this form, the third must be always present, and the eleventh consequently omitted, or else the chord becomes the supertonic ninth. The other intervals of the chord are treated as before.

Examples:



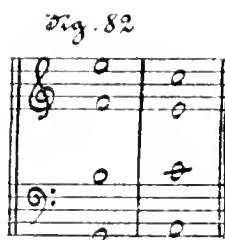
- n.* All thirteenth chords in a key will be seen to have the same constituent tones (namely, all seven degrees of the scale), but by rearrangement, spacing and selection of the tone placed in the Bass, the effect gained may justify a classification similar to that discussed in Section *i* in regard to eleventh chords.

EXERCISE.

Construct various examples of the introduction and treatment of dominant thirteenth chords in various major and minor keys, obtaining variety by the means suggested in Section *l*.

- o.* The use of the fifth of the dominant thirteenth chord may be occasionally allowed in five part harmony when the fifth is in the Bass.
- p.* Note that the dominant thirteenth may form a deceptive cadence by proceeding to the VI or the VI₇.

Example:



EAR TRAINING.

Be able to distinguish between the different formations of the dominant eleventh and dominant thirteenth chords.

INVENTION.

Re-harmonize two previously written double periods, using various forms of the dominant eleventh and dominant thirteenth, both during the phrases, and, where possible, at cadences.

New double periods should be constructed in which opportunities are taken to introduce the effects possible with these chords.

g. By reviewing the various forms of chords studied, we will see that they can all be expressed as structures of thirds. If a third is added above or below a thirteenth chord, it will be seen to merely duplicate a note already present, so we may regard thirteenth chords as the most complex form possible to diatonic chords which are built up by thirds.

Chords built up by other intervals such as fourths and fifths or by seconds and sevenths will be met with in modern music. A few of these forms may be also analyzed as incomplete chords of the ninth, eleventh, or thirteenth, a few others are passing formations arising from suspension, but the majority are due to methods of chord construction which represent the result of studies much further advanced than those covered by the limitations of diatonic harmony.

With the exception of the last noted formations, our studies in diatonic harmony may be regarded as complete.

End of Volume I.

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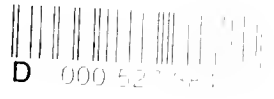
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